

fifth edition

general practice

COMPANION HANDBOOK



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MURTAGH'S

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COMPANION HANDBOOK

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Preface

This companion is a summary of the content of the major text *General Practice* fifth edition. It was written in response to requests from several hundred practitioners who considered that it would be very useful to have a pocket-sized condensation of *General Practice*, which could be carried around during work hours. The companion gives an alphabetical presentation of the vast majority of problems—especially nitty-gritty problems presenting in routine practice.

It focuses on management so that detailed information about clinical features, investigation and whole person management will be lacking. Such details can be found in *General Practice*. Detailed references are also found in *General Practice*. Several topics such as antibiotic prescribing, biological terrorism and court appearances have been transferred from the major text to this companion. The revised companion now includes several checklists or diagrams regularly accessed by the busy practioner. Examples include dermatomes, the mini-mental state examination, Snellen's chart, ECG and respiratory function test pointers. The main references used are the *Drug Guideline* series published by Therapeutic Guidelines Limited.

The authors acknowledge the expert review by Dr Ndidi Victor Ikealumba.

About the authors



John Murtagh AM

MBBS, MD, BSc, BEd, FRACGP, DipObstRCOG Emeritus Professor in General Practice, Monash University Professorial Fellow of General Practice, University of Melbourne Adjunct Clinical Professor, Graduate School of Medicine, University of Notre Dame, Fremantle, Western Australia Guest Professor, Peking University, Beijing

ohn Murtagh was a science master teaching chemistry, biology and physics in Victorian secondary schools when he was admitted to the first intake of the newly established Medical School at Monash University, graduating in 1966. Following a comprehensive postgraduate training program, which included surgical registrarship, he practised in partnership with his medical wife, Dr Jill Rosenblatt, for ten years in the rural community of Neerim South, Victoria.

He returned to Melbourne to take up an academic position at Monash University and was eventually appointed Professor of General Practice and Head of Department in 1993. He is now Emeritus Professor at Monash University. He is also Adjunct Clinical Professor, University of Notre Dame and Professorial Fellow, University of Melbourne, and Guest Professor, Peking University Science Centre, Beijing.

He was appointed Associate Medical Editor of Australian Family Physician in 1980 and Medical Editor in 1986, a position held until 1995. In 1995 he was awarded the Member of the Order of Australia for services to medicine, particularly in the areas of medical education, research and publishing.

One of his numerous publications, *Practice Tips*, was named as the British Medical Association's Best Primary Care Book Award in 2005. In the same year he was named as one of the most influential people in general practice by the publication 'Australian Doctor'. John Murtagh was awarded the inaugural David de Krester medal from Monash University for his exceptional contribution to the Faculty of Medicine, Nursing and Health Sciences over a significant period of time. Members of the Royal Australian College of General Practitioners may know that he was bestowed the honour of the namesake of the College library.

Today John Murtagh continues to enjoy active participation with the diverse spectrum of general practitioners—whether they are students or experienced practitioners, rural or urban based, local or international medical graduates, clinicians or researchers. His vast experience with all of these groups has provided him with tremendous insights into their needs, which is reflected in the culminated experience and wisdom of Murtagh's General Practice.



Dr Jill Rosenblatt

MBBS, FRACGP, DipObstRCOG, GradDipAppSci General Practitioner, Ashwood Medical Group Adjunct Senior Lecturer, School of Primary Health Care, Monash University, Melbourne

ill Rosenblatt graduated in medicine from the University of Melbourne in 1968. Following terms as a resident medical officer she entered rural practice in Neerim South, Victoria, in partnership with her husband John Murtagh. She has a special interest in Indigenous health since she lived at Koonibba Mission in South Australia, where her father was Superintendent.

After leaving rural life she came to Melbourne and joined the Ashwood Medical Group, where she continues to practise comprehensive general medicine and care of the elderly in particular. She was appointed a Senior Lecturer in the Department of General Practice at Monash University in 1980 and a teacher in the GP registrar program.

She gained a Diploma of Sports Medicine (RACGP) in 1985 and a Graduate Diploma of Applied Science in Nutritional and Environmental Medicine from Swinburne University of Technology in 2001.

Jill Rosenblatt brings a wealth of diverse experience to the compilation of this textbook. This is based on 38 years of experience in rural and metropolitan general practice. In addition she has served as clinical assistant to the Shepherd Foundation, the Menopause Clinics at Prince Henry's Hospital and Box Hill Hospital and the Department of Anaesthetics at Prince Henry's Hospital. Jill has served as an examiner for the RACGP for 34 years and for the Australian Medical Council for 12 years. She was awarded a life membership of the Royal Australian College of General Practitioners in 2010.

Laboratory reference values

These reference values and ranges are given in the system of international units (SI) and may vary from laboratory to laboratory.

An asterisk (*) indicates that paediatric reference ranges differ from the adult range given.

Electrolytes/renal	
Sodium	135–145 mmol/L
Potassium*	3.5–5.0 mmol/L
Chloride	95–107 mmol/L
Bicarbonate	23–32 mmol/L
Urea	3-8.0 mmol/L
Creatinine	♀ 0.04-0.11; ♂ 0.04-0.13 mmol/L
eGFR	< 60 mL/min/1.72 m²
Calcium*	2.10–2.60 mmol/L (total)
Phosphate	0.90–1.35 mmol/L
Magnesium*	0.65–1.00 mmol/L
Uric acid*	♀ 0.12–0.40; ♂ 0.15–0.45 mmol/L
Liver function/pancreas	
Bilirubin*	< 20 µmol/L (total) < 3 µmol/L (direct)
AST*	40 U/L
GGT*	♀ < 45; ♂ < 65 U/L
Alkaline phosphatase (ALP)*	< 120 U/L
Total protein	60–80 g/L
Albumin	38-50 g/L
Amylase	30–110 U/L
Lipase	< 80 U/L

Therapeutic drugs		
Digoxin*	Ther. 1.3—2.6 nmol/L	
Phenytoin*	Ther. 40–80 mmol/L	
Sodium valproate*	Ther. 300–700 mmol/L	
Carbamazepine*	Ther. 10–50 mmol/L	
Gentamicin	< 2.0 mcg/mL (pre)	
	< 12.0 mcg/mL (post)	
Lithium	Ther. 0.5–1.0 mmol/L	
Cardiac/lipids		
Troponin I or T	< 0.1 ug/L	
CK total	♀ < 200; ♂ < 800 U/L	
CK-MB	< 25 U/L	
Cholesterol*	< 5.5 mmol/L	
Triglycerides*	< 2.0 mmol/L	
HDL cholesterol	> 1.00 mmol/L	
LDL cholesterol	< 3.5 mmol/L	
Thyroid tests		
Free T ₄	10.0–20.0 pmol/L	
Ultra-sensitive TSH*	0.4–4.5 mU/L	
Free T ₃	3.3–8.2 pmol/L	
Other endocrine tests		
s Cortisol	8 am 130-700 nmol/L	
4 pm	80-350 nmol/L	
FSH	1–9 IU/L (adult)	
	10–30 IU/L (ovulation)	
0 1 1 1	4–200 IU/L (postmenopausal)	
Oestradiol menopausal	< 200 pmol/L	
Testosterone	$Q < 3.5$; O^7 10–35 nmol/L	
Tumour markers		
PSA	0–1.0 mcg/L	
CEA	< 7.5 mcg/L	
AFT	< 10 mcg/mL	
CA-125	< 35 U/mL	
Iron studies		
Ferritin	20–250 mcg/L	
Iron	14–30 μmol/L	
Iron-binding capacity	45–80 μmol/L	
Transferrin	2–3.5 g/L	
Transferrin saturation	Q 20–55%; ♂ 20–60%	

Blood gases/arterial		
pH*	7.38–7.43	
P _a O ₂ *	85–105 mmHg	
P _a CO ₂ *	36–44 mmHg	
Bicarbonate*	20–28 mmol/L	
Base excess*	−3 to +3 mmol/L	
Glucose		
Glucose fasting	3.5–6.0 mmol/L	
Glucose random	3.5–7.9 mmol/L	
HbA _{1c}	4.7–6.1%	
Haematology		
НЬ*	♀ 115–165; ♂ 130–180 g/L	
PCV*	♀ 37-47; ♂ 40-54%	
MCV*	81–98 fL	
Reticulocytes	0.5–2.0%	
White cells	4.0-11.0 × 10 ⁹ /L	
Platelets	150–400 × 10 ⁹ /L	
ESR	< 20 mm	
Band neutrophils*	$(0.05 \times 10^9/L)$	
Mature neutrophils*	(2.0–7.5 × 10 ⁹ /L)	
Lymphocytes*	(1.0-4.0 × 10 ⁹ /L)	
Monocytes*	$(0.2-0.8 \times 10^9/L)$	
Eosinophils*	(0.0-0.4 × 10 ⁹ /L)	
s Folate	(>630 nmol/L)	
s Vitamin B12	(150–700 pmol/L)	
Coagulation		
Bleeding time	2.0-8.5 min	
Fibrinogen	2.0–4.0 g/L	
Prothrombin time	sec.	
Prothrombin ratio INR	1.0-1.2	
APTT	25–35 sec	
D-dimer	< 500 mg/mL	
Others		
s Creatine phospho kinase	< 90 U/L	
s Lead	2 µmol/L	
s C-reactive protein	< 10 mg/L	

Normal values: diagnostic guidelines

The following is a type of checklist that one can use as a template in everyday practice and for teaching.

Hypertension	ВР	> 140/90 mmHg		
Alcohol: excessive drinking		♀ > 2 SDs/d; ♂ > 4 SDs/d		
Anaemia	Haemoglobin	♀ < 115 g/L; ♂ < 130 g/L		
Body mass index	Wt(kg)/Ht(m²)	normal 20–25 overweight > 25 obesity > 30		
Jaundice	s. bilirubin	> 19 µmol/L		
Fever	temperature (morning) ^(a)	oral > 37.2°C rectal > 37.7°C		

(a) There is considerable diurnal variation in temperature so that it is higher in the evening 0.5–1°C. I would recommend the definition given by Yung et al. in *Infectious Diseases*: A Clinical Approach: 'Fever can be defined as an early morning oral temperature > 37.2°C or a temperature > 37.8°C at other times of the day'.

Diabetes mellitus	blood sugar—random ^(b) blood sugar—fasting	> 11.1 mmol/L > 7.0 mmol/L ^(c)
Hypokalaemia	s. potassium	< 3.5 mmol/L
Hyperkalaemia	s. potassium	> 5.0 mmol/L

- (b) 1 reading if symptomatic, 2 readings if asymptomatic
- (c) or the 2 values from an oral GTT

Vital signs (average)	< 6 mths	6 mths-3 y	3–12 y	Adult	
Pulse (beats/min)	120-140	110	80-100	60–100	
Respiration rate					
(breaths/min)	45	30	20	14	
BP (mmHg)	90/60	90/60	100/70	≤ 130/85	
Children's weight rule of thumb					
(1–10 year old)	1-10 year old Wt = (ag		4) × 2 kg		

Abbreviations

+ve positive

-ve negative

↑ increase

↓ decrease

♀ female

♂ male

→ leading to/resulting in ± with or without

AAA aortic abdominal aneurysm

ac before meals

ACE angiotensin-converting enzyme
ACR albumin creatinine ratio
ACS acute coronary syndrome
ACTH andrenocorticotropic hormone
ADT adult diphtheria and tetanus vaccine

AF atrial fibrillation
afb acid fast bacilli
aka also known as

ALL acute lymphocytic leukaemia
ALT alanine aminotransferase
ALTE apparent life-threatening episode
AMI acute myocardial infarction
AML acute myeloid leukaemia
ANA anti-nuclear antibodies

ANCA anti-neutrophil cyctoplasmic antibody

AOM acute otitis media

APF Australian pharmacy formulary
APTT activated partial thromboplastin time
ARB angiotensin 11 reuptake blocker

ARC AIDS-related complex as soon as possible

ATSIP Aboriginal and Torres Strait Islander peoples

AV atrioventricular

BMD bone mass density
BOO bladder outlet obstruction

BMI body mass index

CABG coronary artery bypass grafting
CBT cognitive behaviour therapy
CCB calcium channel blocker

CDT combined diphtheria/tetanus vaccine

CHD coronary heart disease
CJD Creutzfeldt Jakob disease

CK creatinine kinase

CLL chronic lymphocytic leukaemia

CMC carpometacarpal CMV cytomegalovirus co compound

CNS central nervous system

COC/COCP combined oral contraceptive pill COPD chronic obstructive pulmonary disease

COX cyclooxygenase

CPAP continuous positive airway pressure

CPK creatine phosphokinase CR controlled release

CRFM chloroquine-resistant falciparum malaria CSFM chloroquine-sensitive falciparum malaria

CT computerised tomography
CTD connective tissue disorder

CXR chest X-ray

DRE

DABC defibrillation, airway, breathing, circulation

DDH developmental dysplasia of hip

DIC disseminated intravascular coagulation

DIDA duodenal iminodiacetic acid DIP distal interphalangeal

drug dosage bd-twice daily; tid, tds-three times daily;

qid, qds—four times daily digital rectal examination

DS double strength
DST daylight savings time

dsDNA double-stranded deoxyribonucleic acid

DTP diphtheria, tetanus, pertussis DUB dysfunctional uterine bleeding

DVT deep venous thrombosis

EAR expired air resuscitation

EBM Epstein–Barr mononucleosis glandular fever

EBV Epstein–Barr virus ECT electroconvulsive therapy

ABBREVIATIONS

eGFR e glomerular filtration rate

ELISA enzyme linked immunosorbent assay

especially esp.

erythrocyte sedimentation rate **ESR**

FBE full blood count

forced expiratory volume in 1 second FEV,

femto-litre (10-15) **FOBT** faecal occult blood test fna fine needle aspiration **FSH**

follicle stimulating hormone

FTT failure to thrive

fever of undetermined origin **FUO**

FVC forced vital capacity

GABHS group A betahaemolytic Streptococcus

GGT gamma glutamyl transferase

gastrointestinal tract GIT

GORD gastro-oesophageal reflux disease G6-PD glucose-6-phosphate dehydrogenase

HAV hepatitis A virus

hepatitis B surface antigen **HBsAg**

HBV hepatitis B virus

human chorionic gonadotrophin HCG

HCV hepatitis C virus

HDL. high density lipoprotein

high density lipoprotein cholesterol HDLC hepatobiliary iminodiacetic acid HIDA HIV human immunodeficiency virus HLA-B₂₇ human leucocyte antigen hydroxymethyl-glutaryl HMG HRT hormone replacement therapy

HSV herpes simplex virus

IA intra-articular

immuno chromatographic test ICT interferon gamma release assay **IGRA**

ischaemic heart disease IHD

intramuscular/intramuscular injection IM/IMI

international normalised ratio INR

IOFB intraocular foreign body

IR internal rotation

idiopathic thrombocytic purpura ITP **IUCD** intrauterine contraceptive device

IUD intrauterine device

IV intravenous LA local anaesthetic LAct long-acting

LABA long-acting beta antagonist
LAD left anterior descending artery
LDLC low density lipoprotein cholesterol

LFTs liver function tests
LH luteinising hormone

LHRH luteinising hormone releasing hormone

LIF left iliac fossa

LRTI lower respiratory tract infection

LUT lower urinary tract

MAOI monamine oxidase inhibitor

mcg microgram (also μg)

MCU microscopy and culture of urine
MCV mean corpuscular volume
MI myocardial infarction
MRI magnetic resonance imaging

MSU mid-stream urine MTP metatarsophalangeal

NAAT nucleic acid amplification technology

NR normal range

NSAIDs non-steroidal anti-inflammatory drugs NSTEACS non-ST elevated acute coronary syndrome

NSU non-specific urethritis

(o) taken orally OA osteoarthritis
OTC over-the-counter

PA posterior anterior
Pap Papanicolaou
PCOS polycystic ovary sy

PCOS polycystic ovary syndrome
PCR polymerase chain reaction
PE pulmonary embolism
PET peak expiratory flow
PFT pulmonary function test
PID pelvic inflammatory disease
PPI proton-pump inhibitor

PR per rectum

PRh polymyalgia rheumatica PSA prostate specific antigen

PSVT paroxysmal supraventricular tachycardia

RAP recurrent abdominal pain RCA right coronary artery

| A |

ABC of general practice

Its nature and content

General practice is a traditional method of bringing primary health care to the community. It is a medical discipline in its own right, linking the vast amount of accumulated medical knowledge with the art of communication.

Definitions

General practice can be defined as that medical discipline which provides 'community-based, continuing, comprehensive, preventive primary care', sometimes referred to as the CCCP model. The RACGP has defined 5 domains of general practice:

- communication skills and the doctor-patient relationship
- · applied professional knowledge and skills
- population health and the context of general practice
- professional and ethical role
- · organisational and legal dimensions

Unique features of general practice

Features that make general practice different from hospital or specialist-based medical practices include:

- · first contact
- · diagnostic methodology
- · early diagnosis of lifethreatening and serious disease
- · continuity and availability of
- personalised care
- care of acute and chronic illness holistic approach
- · domiciliary care

- · emergency care (prompt treatment at home or in the community)
- · family care
- · palliative care (at home)
- · preventive care
- scope for health promotion
- health care coordination

Apart from these processes, the GP has to manage very common problems including a whole variety not normally taught in medical school or in postgraduate programs. Many of these problems are unusual yet common, and can be regarded as the 'nitty gritty' or 'bread and butter' problems of primary health care.

A diagnostic perspective

The basic model

The use of the diagnostic model requires a disciplined approach to the problem with the medical practitioner quickly answering five self-posed questions (Table 1).

Table 1 The diagnostic model for a presenting problem

- 1 What is the probability diagnosis?
- 2 What serious disorders must not be missed?
- 3 What conditions are often missed (the pitfalls)?
- 4 Could this patient have one of the 'masquerades' in medical practice?
- 5 Is this patient trying to tell me something else?
- I. The probability diagnosis This is based on the doctor's perspective and experience of prevalence, incidence and the natural history of disease.
- 2. What serious disorders must not be missed? To achieve early recognition of serious illness the GP needs to develop a 'high index of suspicion'. This is generally regarded as largely intuitive but is probably not so—it would be more accurate to say that it comes with experience. The serious disorders that should always be considered 'until proven otherwise' are listed in Table 2 and can be classified as V—vascular, I—infection (severe) and N—neoplasia esp. malignancy.

Table 2 Serious 'not to be missed' conditions

Vascular

- arterial
 - acute coronary syndromes
 - cerebral, e.g. stroke, SAH
 - aneurysms—aortic, cerebral
- venous
 - DVT \rightarrow pulmonary embolus
 - axillary venous thrombosis arteritis—GCA/temporal.
- arteritis—GCA/temporal, vasculitides
- · bleeding, e.g. ectopic, DIC

Infection

- · meningoencephalitis
- septicaemia
- meningococcus
- · infective endocarditis
- HIV/AIDS
- · clostridia infections
- pneumonia/avian flu/SARS

Neoplasia esp. malignancy (cancer)

Others

- asthma
- · imminent or potential suicide

Myocardial infarction, or ischaemia, is extremely important to consider as it is so potentially lethal and at times can be overlooked by the busy practitioner. Coronary artery disease may also manifest as life-threatening arrhythmias, which may present as palpitations and/or dizziness. A high index of suspicion is necessary to diagnose arrhythmias.

The concept of red flags or 'alarm bells' is useful in this context, e.g.:

- age >50
- sudden onset of problem
- · history of cancer
- fever >37.8°C
- · weight loss

- pallor
- overseas travel
- · unusual vomiting
- · failure to improve
- · syncope at toilet
- 3. What conditions are often missed? This question refers to the common 'pitfalls' so often encountered in general practice. This area is definitely related to the experience factor and includes rather simple non-life-threatening problems that can be so easily overlooked unless doctors are prepared to include them in their diagnostic framework. Some important pitfalls are given in Table 3.

Table 3 Classic pitfalls

Allergies Foreign bodies Abscess (hidden) Giardiasis Candida infection Haemochromatosis Chronic fatigue syndrome Lead poisoning Coeliac disease Menopause syndrome Domestic abuse, inc. Migraine (atypical variants) child abuse Paget's disease Drugs Pregnancy (early) Herpes zoster Seizure disorders Faecal impaction Urinary infection

4. The masquerades It is important to use a type of fail-safe mechanism to avoid missing the diagnosis of these disorders. Some practitioners refer to consultations that make their 'head spin' in confusion and bewilderment, with patients presenting with a 'shopping list' of undifferentiated or vague problems. It is with these patients that a checklist is useful.

A century ago it was important to consider diseases such as syphilis and tuberculosis as the great common masquerades, but these infections have been replaced by iatrogenesis, malignant disease, alcoholism, endocrine disorders and the various manifestations of atherosclerosis, particularly coronary insufficiency and cerebrovascular insufficiency. Endocrine disorders, often related to pituitary dysfunction (Fig. 1) is a particular challenge.

If the patient has pain anywhere, it is possible that it could originate from the spine, so the possibility of spinal pain (radicular or referred) should be considered as the cause for various pain syndromes, such as headache, arm pain, leg pain, chest pain, pelvic pain and even abdominal pain. The author's experience is that spondylogenic pain is one of the most underdiagnosed problems in general practice.

Tables 4 and 5 provide a checklist divided into two groups of seven disorders. The first list represents the more common disorders encountered in general

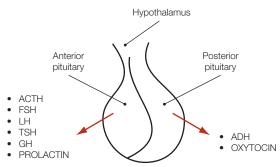


Figure 1 Pituitary hormones

practice; the second includes less common masquerades although some, such as Epstein-Barr mononucleosis, can be very common masquerades in general practice.

Table 4 The seven primary masquerades

- Depression 4 Anaemia 2 Diabetes mellitus 5 Thyroid and other endocrine disorders 3 Drugs hyperthyroidism · iatrogenic self-abuse hypothyroidism · Addinson disease alcohol narcotics 6 Spinal dysfunction 7 Urinary infection nicotine others
- 5. Is the patient trying to tell me something? The doctor has to consider, esp. in the case of undifferentiated illness, whether the patient has a hidden agenda for the presentation. Of course, the patient may be depressed (overt or masked) or may have a true anxiety state. However, a presenting symptom such as tiredness may represent a 'ticket of entry' to the consulting room. It may represent a plea for help in a stressed or anxious patient. Table 6 provides a checklist to help identify the psychosocial reasons for a patient's malaise.

Important underlying psychosocial problems are referred to as **yellow flags**, e.g. Munchausen syndrome, abnormal illness behaviour, atypical signs, poor work performance, law and order incidents.

Table 5 The seven other masquerades

- Chronic renal failure
- 2 Malignant disease
 - lymphomas/leukaemias
 - lung
 - · caecum/colon
 - kidney
 - multiple myeloma
 - ovarymetastasis
- 3 HIV infection/AIDS
- 4 Baffling bacterial infections
 - · syphilis
 - tuberculosis
 - · infective endocarditis
 - the zoonoses
 - · Chlamydia infections
 - · atypical pneumonias
 - others
- 5 Baffling viral (and protozoal) infections
 - Epstein-Barr mononucleosis
 - TORCH organisms
 (e.g. cytomegalovirus)
 - Hepatitis A, B, C, D, E, F, G
 - mosquito-borne infections
 - malaria

- Ross River fever
- dengue
- others
- 6 Neurological dilemmas
 - · Parkinson's disease
 - · Guillain-Barre syndrome
 - seizure disorders esp. complex partial
 - multiple sclerosis
 - myasthenia gravis
 - · space-occupying lesion of skull
 - · migraine and its variants
 - others
- 7 Connective tissue disorders and the vasculitides
 - · Connective tissue disorders
 - SLF
 - systemic sclerosis
 - dermatomyositis
 - overlap syndrome
 - Vasculitides
 - polyarteritis nodosa
 - giant cell arteritis/
 - polymyalgia rheumatica – granulomatous disorders
 - and others

Table 6 Underlying fears or image problems that cause stress and anxiety

- Interpersonal conflict in the family
- 2 Identification with sick or deceased friends
- 3 Fear of malignancy
- 4 STIs, esp. AIDS

- 5 Impending 'coronary' or 'stroke'
- 6 Sexual problem
- 7 Drug-related problem
- 8 Crippling arthritis
- 9 Financial worries
- 10 Other abnormal stressors

Abdominal pain

Key facts and checkpoints

The commonest causes of the acute abdomen in two general practice series were: *Series 1* acute appendicitis (31%) and the colics (29%); *Series 2* acute appendicitis (21%), the colics (16%), mesenteric adenitis (16%). The latter study included children.

Table 7 Acute abdominal pain: diagnostic strategy model

Q. Probability diagnosis

A. Acute gastroenteritis

Acute appendicitis

Biliary colic

Mittelschmerz/dysmenorrheoa Irritable bowel syndrome

Q. Serious disorders not to be missed

A. Vascular

- ruptured AAA
- · dissecting aneurysm aorta
- · mesenteric artery ischaemia
- ectopic pregnancy Severe infection
- ascending cholangitis
- peritonitis/perforated vicous
- acute salpingitis
- pancreatitis

Neoplasia

bowel obstruction

Strangulated hernia

Q. Pitfalls (often missed)

- A. · appendicitis (atypical)
 - myofascial tear
 - · pulmonary e.g. pneumonia
 - · faecal impaction
 - peptic ulcer

Q. Seven masquerades checklist

A. Depression

Diabetes (ketoacidosis)

Drugs

Anaemia—sickle cell

Spinal dysfunction—referred

UTI including urosepsis

Q. Is this patient trying to tell me something?

A. Consider psychogenic in recurrent atypical pain

Red flag pointers for acute abdominal pain

- fever
- · collapse at toilet
- · ischaemic heart disease
- · pallor and sweating
- · progressive vomiting, pain, distension
- · menstrual abnormalities
- atrial fibrillation
- · rebound tenderness and guarding

Diagnostic guidelines

General rules

- · Upper abdominal pain is caused by lesions of the upper GIT.
- Lower abdominal pain is caused by lesions of the lower GIT or pelvic organs.
- Early severe vomiting indicates a high obstruction of the GIT.
- Acute appendicitis features a characteristic 'march' of symptoms: pain → anorexia → nausea → vomiting.

Pain patterns The pain patterns are presented in Figure 3. Colicky pain is a rhythmic pain with regular spasms of recurring pain building to a climax and fading. It is virtually pathognomonic of intestinal obstruction. Ureteric

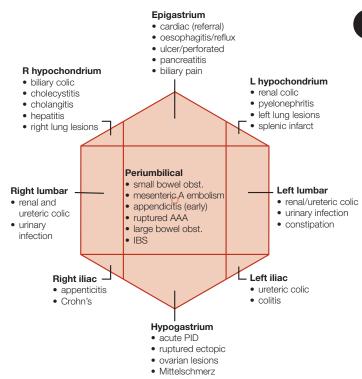


Figure 2 Typical sites of abdominal pain

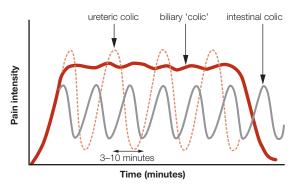


Figure 3 Characteristic pain patterns for various causes of 'colicky' acute abdominal pain

colic is a true colicky abdominal pain, but so-called biliary colic and renal colic are not true colics at all.

Abdominal pain in children

Abdominal pain is a common complaint in children, esp. recurrent abdominal pain.

Infantile colic

Typical features

- Baby 2–16wks, esp. 10wks
- · Prolonged crying in healthy child at least 3h
- · Crying during late afternoon and early evening
- Child flexing legs, clenching fists because of the 'stomach ache', passes gas, red face

Management

- Reassurance and explanation to the parents
- Pacifying methods (1 118)
- · Refer to paediatrician if concerned

Medication Avoid medications if possible but consider simethicone preparations (e.g. Infacol wind drops).

Intussusception

Typical clinical features Sudden onset of severe, paroxysmal, recurrent central pain with pain-free remissions.

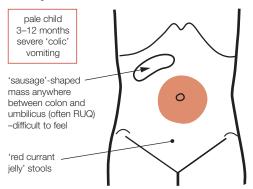


Figure 4 Typical features with pain distribution of acute intussusception

Diagnosis

Ultrasound (US) imaging

Treatment

- Pressure reduction by air or O₂ (preferred) or barium enema
- · Surgical intervention may occasionally be necessary

Drugs

In any child esp. older complaining of acute abdominal pain, enquire into drug ingestion. A common cause of colicky abdominal pain in children is cigarette smoking (nicotine); consider other drugs such as marijuana, cocaine and heroin.

Mesenteric adenitis

This presents a difficult problem in differential diagnosis with acute appendicitis because the history can be very similar. At times the distinction may be almost impossible. In general, with mesenteric adenitis localisation of pain and tenderness is not as definite, rigidity is less of a feature, the temperature is higher and anorexia, nausea and vomiting are also lesser features. The illness lasts ~ 5d followed by a rapid recovery.

Recurrent abdominal pain

Recurrent abdominal pain (RAP) occurs in 10% of school-aged children. (RAP = 3 distinct episodes of pain over 3 or more mths.) In only 5–10% of children will an organic cause be found so that in most the cause remains obscure. Consider constipation, childhood migraine, lactose intolerance.

Investigations

- Urine analysis and MSU/MCU
- · FBE and ESR
- · Plain X-ray (assesses faecal retention)

Specific causes of acute abdominal pain Abdominal aortic aneurysm (AAA)

The risk of rupture is related to the diameter of the AAA and the rate of increase in diameter.

Investigations

- US (good for screening in relatives >50)
- CT scan (clearer imaging)—spiral/helical is best
- MRI scan (good definition)

Refer all cases. Surgery advised if >5-5.5cm.

Mesenteric artery occlusion

Acute intestinal ischaemia arises from superior mesenteric arterial occlusion—may be acute or chronic.

· CT scanning best definition

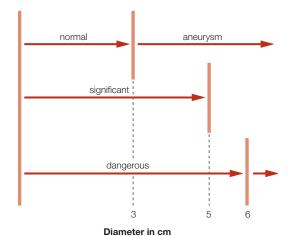


Figure 5 Guidelines for normal and abnormal widths of the abdominal aorta in adults

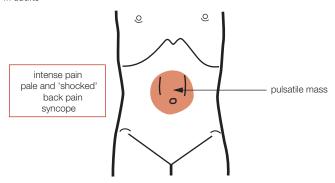


Figure 6 Typical pain distribution of a ruptured aortic abdominal aneurysm

Management Early surgery may prevent gut necrosis, but massive resection of necrosed gut may be required as a life-saving procedure. Early diagnosis (within a few hrs) is essential.

Acute retention of urine

Management

 Perform a rectal examination and empty rectum of any impacted faecal material; check for prostate cancer

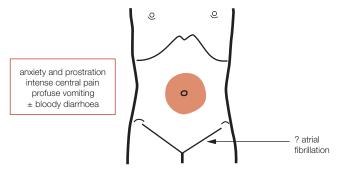


Figure 7 Typical pain distribution of mesenteric arterial occlusion

- Catheterise with size 14 or 16 Foley catheter to relieve obstruction and drain. Obtain MCU. If not possible place suprapubic catheter.
- · Have the catheter in situ and seek a urological opinion.
- If there is any chance of recovery (e.g. if the problem is drug-induced) withdraw drug, leave catheter in for 48h, remove and give trial of prazosin 0.5mg bd or terazosin.

Acute appendicitis

Acute appendicitis is mainly a condition of young adults (esp. 15–25yrs) but affects all ages (although uncommon under 3yrs). It is the commonest surgical emergency.

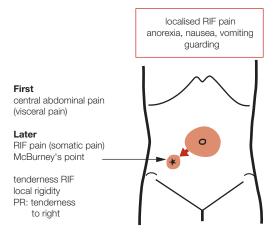


Figure 8 Typical pain distribution for acute appendicitis

FBE—leucocytosis: CRP↑

Consider pelvic US in female patients.

US is 80–90% accurate for appendicitis but obesity or previous abdominal surgery affects accuracy. CT scan or MRI helpful.

Management Immediate referral for surgical removal. If perforated cover with cefotaxime (or similar) and metronidazole.

Small bowel obstruction

The symptoms depend on the level of the obstruction. The more proximal the obstruction the more severe the pain. Plain X-ray erect films confirm the diagnosis. CT scan helpful.

Management

- · IV fluids and bowel decompression with nasogastric tube
- Laparotomy (not for Crohn's disease)

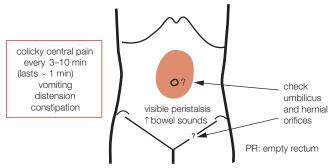


Figure 9 Typical pain distribution for small bowel obstruction

Large bowel obstruction

75% caused by Ca colon: consider volvulus, diverticulitis, constipation.

Management Surgical referral (decompression invariably required).

Perforated peptic ulcer

The clinical syndrome has three stages:

- I prostration
- 2 reaction (after 2–6h)—symptoms improve
- 3 peritonitis (after 6–12h)

X-ray. chest X-ray may show free air under diaphragm (in 75%)—need to sit upright for 15mins prior. Limited gastrografin meal can confirm diagnosis. CT scan is accurate

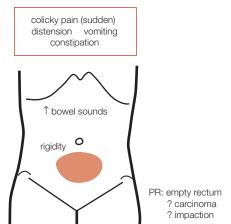


Figure 10 Typical pain distribution for large bowel obstruction

- Drip and suction (immediate nasogastric tube)
- · Immediate laparotomy after resuscitation
- Conservative treatment may be possible (e.g. later presentation and gastrografin swallow indicates sealing of perforation)

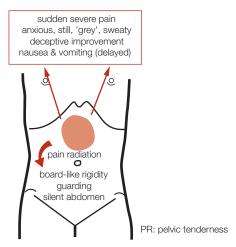


Figure 11 Typical features of perforated peptic ulcer

Ureteric colic

Renal colic is not a true colic but a constant pain due to blood clots or a stone lodged at the pelvic ureteric junction; ureteric colic, however, presents as severe true colicky pain.

Diagnosis

- Plain X-ray: most stones (75%) are radio-opaque (calcium oxalate and phosphate). Stones < 5mm usually pass
- Intravenous pyelogram: confirms opacity and indicates kidney function (limited value)
- · US: may locate calculus and exclude obstruction
- · Non-contrast spiral CT is the gold standard

Management (average size adult)

- Morphine 15mg (IM) or 10mg (IV) or fentanyl 50–100 mcg IV ± metoclopramide 10mg IM or IV or hyoscine 20mg IM if vomiting
- · Avoid high fluid intake
- Indomethacin suppositories for further pain (limited to 2/d) Options: diclofenac 75mg IM; ketoralac 30mg IM

Biliary pain

Diagnosis

- · Abdominal US/DIDA or HIDA or CT scan
- WCC and CRP: may be↑

- · Gallstone dissolution or lithotripsy
- Cholecystectomy (main procedure)

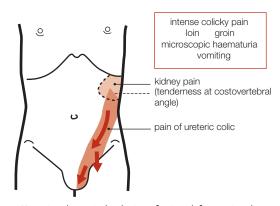


Figure 12 Ureteric colic: typical radiation of pain in left ureteric colic

Treatment of acute cholecystitis

- · Rest in bed
- · IV fluids
- · Nil orally
- Analgesics: morphine 2.5–5 mg IV (titrate to effect) or fentanyl 50–100 mcg IV
- Antibiotics: amoxycillin IV or IM plus gentamycin IV (if sepsis) or cephalosporins IM or IV
- Cholecystectomy

Acute pancreatitis

Diagnosis

- WCC—leucocytosis
- S. amylase or lipase (usu. × 5 increase)
- · Plain X-ray, may be senital loop
- CT scan
- US (to evaluate biliary system)

- · Arrange admission to hospital
- Basic treatment is bed rest, nil orally, nasogastric suction (if vomiting), IV fluids, analgesics (morphine or fentanyl) and antiemetics IM or IV.

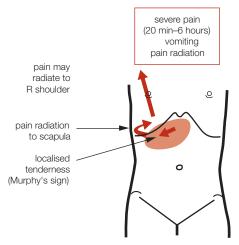


Figure 13 Typical site of pain of biliary 'colic' and acute cholecystitis

severe pain (hours to days) nausea & vomiting relative lack abdominal signs weak, pale, sweaty

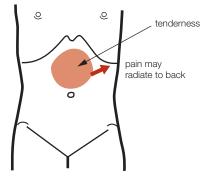


Figure 14 Typical pain distribution of acute pancreatitis

Chronic pancreatitis

The pain is milder but more persistent: epigastric pain may bore through to the back. Symptoms may relapse and worsen. Investigate with CT scan and ultrasound. Weight loss and steatorrhoea may develop. Give paracetamol or codeine for pain and pancreatic enzyme supplements for steatorrhoea.

Acute diverticulitis

Occurs in <10% of patients with diverticular disease (1 186).

Investigations

- FBE—leucocytosis: ESR↑
- · Pus and blood in stools
- Abdominal US/CT scan

Treatment

- · Nil orally
- · Analgesics
- · Antibiotics
 - mild cases: amoxycillin + clavulanate bd for 5-7d
 - severe cases: amoxycillin IV + gentamicin IV + metronidazole IV
- · Surgery for complications

acute pain LIF left-sided radiation fever ± constipation

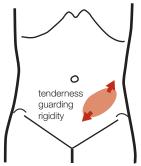


Figure 15 Typical pain distribution of acute diverticulitis

Lower abdominal pain in women

A UK study of chronic lower abdominal pain in women showed the causes were adhesions (36%), no diagnosis (19%), endometriosis (14%), constipation (13%), ovarian cysts (11%) and PID (7%).

Ectopic pregnancy

Diagnosis

- Urine pregnancy tests may be +ve
- $\beta\text{-HCG}$ assay (may need serial tests) if >1500 IU/L invariably +ve
- Vaginal US can diagnose at 5–6wks (empty uterus, tubal sac)
- Laparoscopy (the definitive diagnostic procedure)

Management Treatment may be conservative (based on US and β -HCG assays); medical, by injecting methotrexate into the ectopic sac; laparoscopic removal; or laparotomy for severe cases. Rupture with blood loss demands urgent surgery.

Ruptured ovarian (Graafian) follicle (Mittelschmerz)

Typical clinical features

- · Onset of pain in mid cycle
- Deep pain in one or other iliac fossa (RIF>LIF) (average 5h)
- · Often described as a 'horse-kick pain'
- · Pain tends to move centrally
- Heavy feeling in pelvis

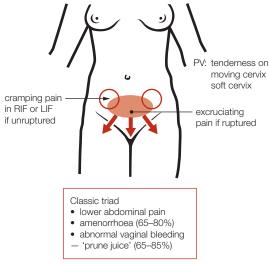


Figure 16 Clinical features of ectopic pregnancy

Management

- · Explanation and reassurance
- · Simple analgesics: aspirin or paracetamol (acetaminophen)
- · 'Hot water bottle' comfort if pain severe

Ruptured ovarian cyst

The cysts tend to rupture just prior to ovulation or following coitus.

- · Sudden onset of pain in one or other iliac fossa
- · May be nausea and vomiting
- · Pain usually settles within a few hours

Signs

- · Tenderness and guarding in iliac fossa
- PR: tenderness in rectovaginal pouch

Diagnosis

US

- · Appropriate explanation and reassurance
- Conservative
 - simple cyst < 4cm
 - internal haemorrhage
 - minimal pain
- May need needle vaginal drainage or laparoscopic surgery

Acute torsion of ovarian cyst

Diagnosis

• US ± Doppler studies

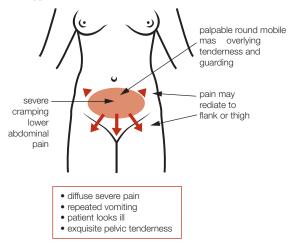


Figure 17 Typical clinical features of acute torsion of an ovarian cyst

Treatment

· Laparotomy and surgical correction

Pelvic adhesions

Pelvic adhesions may be the cause of pelvic pain, infertility, dysmenorrhoea and intestinal pain. They can be diagnosed and removed laparoscopically when the adhesions are well visualised and there are no intestinal loops firmly stuck together.

Acne

Some topical treatment regimens

Mild (comedonal \pm papulo pustular)

Principle: treat comedones with a comedyltic (e.g. sulphur co, salicylic acid, retinoids) plus an antibacterial e.g. benzoyl peroxide.

- · retinoin 0.025% or 0.05% cream nocte or
- isotretinoin 0.05% gel nocte or
- benzoyl peroxide 2.5% or 5% cream or gel nocte (alternate nights first 2wks)

If slow response after 6wks combine, e.g.: isotretinoin 0.05% gel nocte *plus* benzoyl peroxide 2.5% or 5% mane *or* add

- clindamycin 1% lotion topical, mane or
- · erythromycin 2% topical gel, mane or
- · azelaic acid, apply bd

Maintain for 3mths and review.

Moderate (± trunk involvement)

- · retinoid or benzoyl peroxide plus
- · oral antibiotics

Moderate to severe (+ nodules, ± cysts)

- · retinoid topical nocte or
- adapalene 0.1% cream or gel nocte plus
- · oral antibiotic

Clindamycin regimen

Use clindamycin HCl in alcohol. Apply to each comedone with fingertips twice daily.

- Clindatech is a ready clindamycin preparation.
- Clindamycin is particularly useful for pregnant women and those who cannot tolerate antibiotics or exfoliants.

Oral antibiotics

Use if acne is resistant to topical agents or for inflammatory acne. Doxycycline 100mg/d or minocycline 50–100mg bd for 12 wks then reduce according to response (e.g. doxycycline 50mg for at least 6 mths to achieve maximal response). Use erythromycin 250–500mg (o) bd if above not tolerated or contraindicated.

Other therapies

Severe cystic acne (specialist care)

- isotretinoin (Roaccutane)
- dapsone

Females not responding to first-line treatment:

 combined oral contraceptive pill (e.g. ethinyloestradiol/cyproterone acetate (Diane-35 ED))

New agents for mild to moderate acne:

- · azelaic acid, apply bd
- tazarotene o.1% cream, once nocte

Facial scars

Injections of collagen can be used for the depressed facial scars from cystic acne.

Acute allergic reactions

- · Multi-system
 - acute anaphylaxis
 - anaphylactic reactions
- Localised
 - angioedema
 - urticaria

Anaphylaxis and anaphylactic reactions Treatment (adults)

First line

- Oxygen 6-8 L/min (by face mask)
- Adrenaline 0.3-0.5mg (I:1000) IM best given IM in upper body (e.g. deltoid) (mg = mL of I:1000 adrenaline)
 If no rapid improvement: repeat IM injection, insert IV line-set up an infusion I mg adrenaline in 1000 mL N saline (i.e.: I mL = I mcg), give bolus 50 mL and then as required
- Infuse colloid solution, e.g. Haemaccel (500 mL → 1 L) or crystalloid solution, e.g. N saline (1.5 L → 3 L), 1 part colloid = 3 parts crystalloid (by vol)
- Salbutamol aerosol inhalation (or nebulisation if severe)
- · Admit to hospital (observe at least 4h)
- Discharge on promethazine 25mg tds + prednisolone 50mg/d for 2d

If not responding

Continue adrenaline every 5mins:

- hydrocortisone 500mg IV (takes 3-4h for effect)
- · establish airway (oral airway or endotracheal intubation) if required

Treatment for children

- Oxygen 6-8 L/min by mask
- Adrenaline I:Iooo (o.oImL/kg) IM. If poor response repeat IM injection and set up infusion as for adults but lower dose of bolus
- · Admit to hospital

If necessary

- Hydrocortisone: 8-10mg/kg IV
- Hypotension: colloid solutions IV (e.g. Haemaccel, stable plasma protein solution (SPPS) or Dextran 70)
- Bronchospasm: continuous nebulised salbutamol
- · Upper airways obstruction
 - mild to moderate: inhaled adrenaline (0.5mL/kg) 1:1000 (max. 4mL) dilute to 4mL, with saline or water if nec.
 - severe: intubation may be nec.

Angioedema and acute urticaria

Acute urticaria and angioedema are essentially anaphylaxis limited to the skin, subcutaneous tissues and other specific organs. They can occur together.

Treatment

Uncomplicated cutaneous swelling

 antihistamines, e.g. promethazine 25mg (o) tds or 25mg IM if more severe

Upper respiratory involvement

- · adrenaline 0.3mg IM
- · antihistamine IM

Addison disease

Chronic adrenal failure—usually autoimmune.

Features: fatigue, a/n/v, diarrhoea, abdominal pain, weight loss, dizziness, postural hypotension, hyperpigmentation (mouth, hard palate, skin creases of palm).

Investigations: $K^+ \uparrow$, $Na^+ \downarrow$, cortisol \downarrow , short synacthen stimulation test (Key test).

NB: notorious for delayed diagnosis with possible wasting, death and Addisonian crisis provoked by stress, e.g. infection, surgery.

Adolescent health

Adolescence is the name given to the psychosocial life stage which starts around the time of puberty; considered to span ~ 12–19yrs.

Hallmarks of the adolescent

The main hallmarks of the adolescent are:

- self-consciousness
- · self-awareness
- self-centredness
- lack of confidence

Needs of the adolescent

Adolescents have basic needs that will allow them the optimal environmental conditions for their development:

- · 'room' to move
- · privacy and confidentiality
- security (e.g. stable home)
- · acceptance by peers
- someone to 'lean on' (e.g. youth leader)
- · special 'heroes'
- establishment of an adult sexual role
- one good trustworthy friend

The clinical approach

Consider the mnemonic HEADS in the history.

H—home

E—education, employment, economic situation

A-activities, affect, ambition, anxieties

D-drugs, depression

S-sex, stress, suicide, self-esteem

During this process it is necessary to be aware of the fundamental development tasks of adolescence, namely:

- · establishing identity and self-image
- · emancipation from the family and self-reliance
- · establishing an appropriate adult sexual role
- · developing a personal moral code
- · making career and vocational choices
- · ego identity and self-esteem

If consulted it is necessary to conduct a physical examination and order very basic investigations if only to exclude organic disease and provide the proper basis for effective counselling. Areas of counselling and anticipation guidance that are most relevant are:

- · emotional problems/depression
- · significant loss (e.g. breakdown of 'first' love)
- · sexuality
- contraception
- · guilt about masturbation or other concerns

Depression, parasuicide and suicide

When dealing with adolescents it is important always to be on the lookout for depression and the possibility of suicide, which is the second most common cause of death in this group. Males successfully complete suicide 4 times more often than females while females attempt suicide 8–20 times more often than males.

Treatment of depression

Non-pharmacological interventions (all grades)

- general support and education
- · family therapy
- interpersonal psychotherapy
- CBT

Alcohol problems

Excessive and harmful drinking

For men, excessive drinking is more than 4 SDs/d. For women, drinking becomes a serious problem at >2 SDs/d. This level can also affect the foetus

Medication

- · mild: not recommended
- moderate to severe: fluoxetine iomg/d ↑to 2omg/d; continue for 6–12 mths after recovery

Table 8 NH&MRC guidelines to reduce risks from drinking alcohol

Healthy men and women:	No more than 2 SDs/day	
	No more than 4SDs on a single	
	occasion	
Children and young > 18 years:	Don't drink if < 15y and delay as long	
	as possible	
Pregnant and breastfeeding wom	nen: Abstinence is safest option	

of the pregnant woman. High-risk or harmful drinking occurs at more than 6 drinks a day for men and 4 drinks a day for women.

Laboratory investigations

The following blood tests may be helpful in the identification of excessive chronic alcohol intake:

- · blood alcohol
- serum GGT[↑] in chronic drinkers (returns to normal with cessation of intake)
- MCV: > 98 fL (i.e. macrocytosis)
- carbohydrate deficient transferrin 1 in chronic drinkers

Measuring alcohol intake

One SD contains 10 g alcohol—I middy (or pot) of standard beer (285 mL), 2 middies of low-alcohol beer or 5 middies of super-light beer. These are equal in alcohol content to one small glass of table wine (120 mL), one glass of sherry or port (60 mL) or one nip of spirits (30 mL).



Figure 18 Standard drinks

Approach to management

The challenge to the family doctor is early recognition of the problem. Several studies have shown that early intervention and brief counselling by the doctor are effective in leading to rehabilitation. Some of the results are very revealing:

- Patients expect their family doctor to advise on safe drinking levels.
- · They will listen and act on our advice.
- Treatment is more effective if offered before dependence or chronic disease has developed.

A brief practical management plan A six-step management plan, which has been employed in a general-practice early intervention program, is as follows:

- I Feed back the results of your assessment and specifically the degree of risk associated with their daily alcohol intake and bout drinking. Emphasise any damage that has already occurred.
- 2 Listen carefully to their reaction. They will need to ventilate their feelings and may respond defensively.
- 3 Outline the benefits of reducing drinking (e.g. save money, better health).
- 4 Set goals for alcohol consumption which you both agree are feasible.
 - For men: aim for fewer than 12 SDs/week.
 - For women: aim for fewer than 8 SDs/week.
 - For patients with severe ill effects and who are physically dependent on alcohol, long-term abstinence is advisable.
- 5 Set strategies to keep below the upper low-risk limits, e.g.
 - Quench thirst with non-alcoholic drinks before having an alcoholic one.
 - Switch to low-alcohol beer.
 - Take care which parties you go to.
 - Explore new interests—fishing, cinema, social club, sporting activity.
- 6 Evaluate progress by having patients monitor their drinking by using a diary. Make a definite appointment for follow-up and give appropriate literature such as Alcohol and health. Obtain consent for a telephone follow-up. A useful minimum intervention plan is presented in Table 9.

Table 9 Minimum intervention technique plan (5–10mins)

- 1 Advise reduction to safe levels
- 2 Outline the benefits
- 3 Provide a self-help pamphlet
- 4 Organise a diary or other feedback system
- 5 Obtain consent for a telephone follow-up
- 6 Offer additional help (e.g. referral to an alcohol and drug unit or to a support group)

Follow-up (long consultation I week later) Review the patient's drinking diary. Explore any problems, summarise, listen and provide support and encouragement. If appointment is not kept, contact the patient.

'Anti-craving' drugs The following show a modest effect on assisting abstinence:

- · acamprosate 666mg (o) tds
- · naltrexone 50mg (o) daily

A combination of these is more effective in preventing relapse than individual drugs

Recommended treatment for early withdrawal symptoms

- Diazepam 10-20mg (o) every 2-6h (up to 60-100mg (o) max daily) titrated against clinical response (taper off after 2d)
- If psychotic features add haloperidol 1.5-5 mg (o) bd
- Thiamine 100mg IM or IV daily for 3-5 d, then 100mg (o) daily
- · Vitamin B group supplement (o) or IM daily

Alopecia areata (patchy hair loss) 🗅 269

Features

- · Patch of complete hair loss and clean scalp
- · Exclamation mark hairs
- Small patches may recover spont. (~80%)

Treatment

- Topical potent topical corticosteroids (class III or IV) bd—12wks
- Intradermal injections of triamcinolone (Kenacort A10) or
- Minoxidil 5% i mL, bd applied to dry scalp (for 4 or more mths) only when hair growing

Androgenetic alopecia (male pattern baldness) \Box 268 Treatment for men

- · Counsel re accepting problem
- · Alternatives—wear toupee, wig or hair transplant

Medications

- Minoxidil 2% and 5%, 1mL, applied bd to dry scalp (min. 12 mths) but expensive and hair loss resumes on cessation
- Finasteride 1mg (o) daily for min. 2yrs. Same problem as above

Treatment for women

- · Counselling
- · Alternatives—hair styling, wigs, camouflage

Medications

- Minoxidil (as for men)
- · Spironolactone or cyproterone acetate (specialist supervision)

Amnesia (loss of memory)

The amnesias are disorders involving partial or total inability to recall past experiences. Causes include psychogenic (conversion disorder, fugue states, factitious, etc), Wernicke–Korsakoff syndrome (alcohol), post-trauma, transient organic states (CVA, epilepsy, hypoxia, cerebral infection, drugs, etc), cerebral tumour, various drugs (alcohol, cannabis, antiepileptics, digoxin, etc.) and transient global amnesia.

Transient global amnesia

- · Benign condition of middle-aged and elderly
- · Acute onset profound amnesia
- State of bewilderment (e.g. 'Where am I?')
- Self-limited—usu. 4–8 (up to 24)h
- Complete resolution
- Usually single episode (20% recurrence)
- May be precipitating event (e.g. stress)
- No other neurological symptoms or signs
- · Able to perform complex motor skills (e.g. driving)
- · Good prognosis
- · Investigations generally unhelpful
- · No active treatment recommended

Anaemia

Anaemia is a label, not a specific diagnosis. Anaemia is defined as a haemoglobin (Hb) below the normal reference level for the age and sex of that individual. Definition:

- Hb < 130 g/L (♂)
- Hb < 115 g/L (♀)

Table 10 The interpretation of iron studies4

Condition	Serum Fe	TIBC	% Transferrin Saturation	Ferritin
Iron deficiency	\downarrow	N or ↑	\downarrow	$\downarrow \downarrow$
β Thalassaemia	N or ↑	N	N or ↑	N or ↑
Anaemia of chronic disease	\downarrow	N or ↓	\downarrow	N or ↑
Sideroblastic anaemia	N or ↑	N	N or ↑	\uparrow
Haemochromatosis	\uparrow	\downarrow	$\uparrow \uparrow$	$\uparrow \uparrow$

N = normal

Classification of anaemia

The various types of anaemia are classified in terms of the red cell size—the MCV.

Table 11 Causes/classification of anaemia

Microcytic (MCV < 8ofL)	Iron deficiency Haemoglobulinopathy, e.g. thalassaemia Sideroblastic anaemia (hereditary) Anaemia of chronic disease (sometimes microcytic)	
Macrocytic (MCV > 98fL)	 (a) With megaloblastic changes Vitamin B₁₂ deficiency Folate deficiency Cytotoxic drugs (b) Without megaloblastic changes Liver disease/alcoholism Myelodysplastic disorders 	
Normocytic (MCV 80–98fL)	Acute blood loss/occult bleeding Anaemia of chronic disease Haemolysis Chronic renal disease Endocrine disorders (e.g. hypothyroidism)	

Microcytic anaemia— $MCV \leq 80 fL$

The main causes of microcytic anaemia are iron deficiency and haemoglobulinopathy, particularly thalassaemia.

Iron-deficiency anaemia

Iron deficiency is the most common cause of anaemia worldwide. The most common causes are chronic blood loss and poor diet.

Haemological investigations: typical findings

- · Microcytic, hypochromic red cells
- · Anisocytosis (variation in size), poikilocytosis (shape)
- · Low s. iron
- †Iron-binding capacity
- Low s. ferritin (NR: 20-250mcg/L, the most useful index)
- ↑soluble transferrin receptor factor

Treatment

- · Correct the identified cause
- · Iron preparations:
 - oral iron (preferred method), e.g. Ferro-Gradumet 350 mg (o) daily with orange juice or ascorbic acid until Hb is normal
 - parenteral iron is best reserved for special circumstances. It can cause a 'tattoo' effect.

Avoid transfusion if possible

Response

- Anaemia responds after ~ 2wks and is usually corrected after 2mths
- Oral iron is continued for 3–6mths to replenish stores
- · Monitor progress with regular s. ferritin
- A s. ferritin > 50mcg/L generally indicates adequate stores

Thalassaemia

The heterozygous form is usually asymptomatic; patients show little if any anaemia. The homozygous form is a very severe congenital anaemia needing lifelong transfusional support.

The key to the diagnosis of the heterozygous 'thalassaemia minor' is significant microcytosis quite out of proportion to the normal Hb or slight anaemia, and confirmed by finding a raised ${\rm HbA_2}$ on Hb electrophoresis or by DNA analysis. It must be distinguished from iron-deficiency anaemia, for iron does not help thalassaemics and is theoretically contraindicated.

Macrocytic anaemia—MCV > 98 fL Vitamin B, deficiency (pernicious anaemia)

The clinical features are anaemia (macrocytic), weight loss and neurological symptoms, esp. a polyneuropathy. The serum vitamin B_{12} is below the normal level.

Replacement therapy

- Vitamin B₁₂ (1mg) IM injection: body stores (3–5mg) are replenished after 10 injections given every 2–3d + oral folate 5 mg (o) d
- Maintenance with 1mg injections every 3 mths

Folic acid deficiency

The main cause is poor intake associated with old age, poverty and malnutrition, usually associated with alcoholism. It may be seen in malabsorption and regular medication with anti-epileptic drugs such as phenytoin. It is rarely, but very importantly, associated with pregnancy. The best test is red cell folate (N > 630 nmol/L).

Replacement therapy Oral folate 5mg/d, to replenish body stores (5–10mg) in ~ 4wks, continue for 4 months.

Angina pectoris

Management of stable angina

- · Attend to any risk factors
- If inactive, take on an activity such as walking for 20mins a day

- · Regular exercise to the threshold of angina
- · Relaxation program
- · Avoid precipitating factors
- · Don't excessively restrict lifestyle

Medical treatment

The acute attack

- Glyceryl trinitrate 600 mcg tab or 300 mcg (½ tab) SL or
- Glyceryl trinitrate SL spray: 1-2 sprays; rpt after 5mins if pain persists (max. 2 doses) or
- Isosorbide dinitrate 5mg SL; rpt every 5mins (max. 3 doses) or
- Nifedipine 5mg capsule (suck or chew) if intolerant of nitrates Advise that if no relief after 2–3 tabs get medical advice.

Avoid nitrates if s. phosphodiesterase inhibitors used for ED in past I-5d.

Mild stable angina Angina that is predictable, precipitated by more stressful activities and relieved rapidly.

- Aspirin 150mg (o) /d (use clopidogrel 75mg (o) /d if intolerant)
- Glyceryl trinitrate (SL or spray) prn (use early)
- · Consider a beta-blocker or long-acting nitrate or nicorandil

Moderate stable angina Regular predictable attacks precipitated by moderate exertion.

- · As above plus
- Beta-blocker, e.g. atenolol 50–100mg (o) once/d or metoprolol 50–100mg (o) once/d
- Glyceryl trinitrate (ointment or patches) daily (12–16h only) or isosorbide mononitrate 6 omg (o) SR tablets mane (12-h span)

If not controlled Add a dihydropyridine Ca-channel blocker:

- nifedipine 10–20mg (o) bd or
- nifedipine controlled release 30–60mg (o) /d $\it or$
- amlodipine 2.5-10mg (o) once/d

If beta-blocker contraindicated, use:

- diltiazem SR 90mg (o) bd (max. 240mg/d) or CR 180–360mg (o) /d, or
- nicorandil 5mg (o) bd, ↑ to 10–20mg bd after 1wk

Persistent or refractory angina Patients require specialist evaluation for suitability for a corrective procedure (see below).

Unstable angina Hospitalise for stabilisation and further evaluation. The objectives are to optimise therapy, give IV trinitrate and heparin and consider coronary angiography with a view to a corrective procedure such as CABG surgery or angioplasty stenting.

Anorectal disorders

Anorectal pain

The patient may complain that defecation is painful or almost impossible because of anorectal pain.

Anal fissure

Anal fissures cause pain on defecation and usually develop after a period of constipation (may be brief period) and tenesmus.

Treatment—milder cases In a milder case of anal fissure the discomfort is slight, anal spasm is a minor feature and the onset is acute.

An acute fissure will usually heal spontaneously or within a few weeks of a high-fibre diet, sitz baths and laxatives.

Conservative management

- Xyloproct suppositories or ointment or
- Glyceryl trinitrate ointment (Nitro-bid 2%) diluted I part with 9 parts
 white soft paraffin applied to the lower anal canal
 (e.g. Rectogesic ointment tds for 4wks).

Prevention

- High-residue diet (consider the addition of bran or wheat preparations) to give soft faeces
- · Avoidance of constipation with hard stools (aim for soft bulky stools)

More severe chronic fissures The feature here is a hyperactive anal sphincter, and a practical procedure such as injection of botulinum toxin into the sphincter is necessary to solve this painful problem. Otherwise more radical surgery is necessary.

Proctalgia fugax

Main features:

- · fleeting rectal pain
- varies from mild discomfort to severe spasm
- lasts 3-30mins
- · often wakes patient at night
- a functional bowel disorder
- · affects adults, usu. professional males

- · Explanation and reassurance
- Salbutamol inhaler (2 puffs statim) or glyceryl trinitrate SL spray statim or quinine sulphate before retiring worth a trial

Perianal haematoma

Within 24h of onset: simple aspiration of blood or surgical drainage under LA

Within 24h to 5d of onset: express thrombus through small incision under LA (deroof skin)

Day 6 onwards: leave alone unless very painful or infected

Strangulated haemorrhoids

A marked oedematous circumferential swelling will appear if all the haemorrhoids are involved. If only one haemorrhoid is strangulated, proctoscopy will help to distinguish it from a perianal haematoma. Initial treatment is with rest and ice packs prior to haemorrhoidectomy at the earliest possible time. Relatively urgent referral is recommended.

Perianal abscess

Careful examination is essential to make the diagnosis. Look for evidence of a fistula.

Treatment Drainage via a deep cruciate incision over the point of maximal induration. If abscess is recalcitrant or spreading with cellulitis use metronidazole 400mg (o) 12hrly for 5–7d + cephalexin 500mg (o) 6hrly for 5–7d.

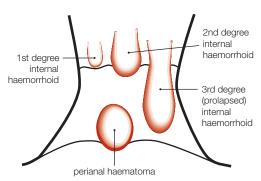


Figure 19 Classification of haemorrhoids

Anorectal lumps Skin tags

The skin tag is usually the legacy of an untreated perianal haematoma. It may require excision for aesthetic reasons, for hygiene or because it is a source of pruritus ani or irritation.

Perianal warts

It is important to distinguish the common viral warts from the condylomata lata of secondary syphilis. Local therapy includes the application of podophyllin every 2 or 3 days by the practitioner or imiquimod cream by the patient.

Internal haemorrhoids

Haemorrhoids or piles are common and tend to develop between the ages of 20 and 50. The commonest cause is chronic constipation related to a lack of dietary fibre.

Treatment The treatment of haemorrhoids is based on three procedures: namely, injection, cryotherapy and sphincterotomy. Surgery is generally reserved for large strangulated piles. The best treatment, however, is prevention, and softish bulky faeces that pass easily prevent haemorrhoids.

Anal (faecal) incontinence

Initial approaches for this common problem include counselling, diet to produce thicker stools, pelvic floor exercises and medication such as loperamide. Otherwise refer to a colorectal surgeon for consideration for surgical repair (e.g. insertion of the Acticon Neosphincter).

Antibiotic prescribing

Antimicrobial or anti-infective agents can be classified as bactericidal (kills organisms) or bacteriostatic (prevents growth of organisms). Both types are effective therapeutically although both also rely on natural host defences to eradicate the pathogenic micro-organisms. Both types can act synergistically together or antagonistically, e.g. penicillin + tetracycline for bacterial meningitis. A particular agent may exhibit both bactericidal and bacteriostatic properties, depending on the conditions of activity and the dose.

 β -lactams such as penicillins and cephalosporins, and aminoglycosides such as gentamicin and streptomycin, are the typical examples of bacteriocidal agents, while the macrolides, such as erythromycin and roxithromycin, and the tetracyclines are examples of bacteriostatic drugs.

Antimicrobial agents are classified into 5 major groups according to the site on the cellular biochemical pathway where the drug is primarily active:

- ${f I}$ inhibition of synthesis and damage to cell wall
- 2 inhibition of synthesis or damage to cytoplasmic membrane
- 3 inhibition of synthesis of nucleic acid
- 4 inhibition of protein synthesis
- 5 modification of folic acid metabolism, affecting energy metabolism

Beta-lactams

The β -lactams include a diverse group of agents which are structurally related and exhibit bactericidal activity directed at the bacterial cell wall. They include the penicillins, cephalosporins, monolactams (e.g. aztreonam), and carbapenems (e.g. imipenem).

The penicillins can be classified as follows:

- narrow spectrum—benzylpenicillin (penicillin G), procaine penicillin, benzathine penicillin and phenoxymethylpenicillin
- · broad spectrum—ampicillin, amoxycillin
- · antistaphylococcal—methicillin, cloxacillin, dicloxacillin, flucloxacillin
- · antipseudomonal—piperacillin and ticarcillin

Practice points

- The development of β -lactamase enzyme in resistant micro-organisms has been a major problem (e.g. MRSA) in health care associated or community acquired. This has led to the development of β -lactamase inhibitors, such as clavulanic acid and sulbactam, which inhibit the organisms when used in combination with penicillins such as amoxycillin and ticarcillin.
- The antistaphylococcal penicillins are stable to β -lactamase produced by staphylococci.
- Flucloxacillin is generally well tolerated but can cause cholestatic
 jaundice. The problem is largely restricted to older patients (> 55yrs),
 especially with renal impairment, and also longer courses. There is
 evidence that the related dicloxacillin is less hepatotoxic but probably
 less effective for serious infections.
- Penicillin hypersensitivity (anaphylaxis, angioedema and urticaria) is due to an IgE antibody reaction against penicillin antigens. The reaction can be delayed for up to 72h. Unless the rashes are urticarial they may not represent an acute hypersensitivity reaction.
- Maculopapular rashes associated with (amoxy) ampicillin may not be hypersensitivity (allergic) reactions. The same may apply to the symptom of diarrhoea.
- Cross-reactivity between the groups can occur so a history of an immediate reaction is a contraindication to giving penicillin and most other β -lactam drugs.

Aminoglycosides

The aminoglycosides include gentamicin, tobramycin, netilmicin, amikacin and streptomycin. They are basically bactericidal and are effective against Gram-positive and Gram-negative organisms.

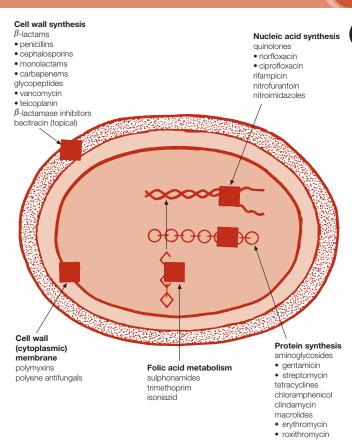


Figure 20 The bacterial cell, showing the five main antimicrobial sites of mechanisms of inhibition of micro-organisms

Sulphonamides and trimethoprim

The combination of the sulphonamide, sulphamethoxazole, with trimethoprim is a broad-spectrum agent against urinary tract and respiratory tract infections.

Tetracyclines

Tetracyclines are broad-spectrum agents that inhibit a wide variety of Gram-positive and Gram-negative organisms and other micro-organisms such as rickettsiae, *Chlamydia* and mycoplasmas.

Ouinolones

Nalidixic acid is an original member of this group. Norfloxacin, ciprofloxacin, enoxacin and fleroxacin are newer members with a broad spectrum of activity.

The new 'respiratory' fluoroquinolones (moxifloxacin and gatifloxacin) have an increased action against Gram-positive organisms, especially *Streptococcus pneumoniae*.

Macrolides

Macrolides include erythromycin, roxithromycin, clarithromycin and azithromycin. They have a wide spectrum of activity against Gram-positive and Gram-negative cocci and anaerobes, *Mycoplasma*, *Chlamydia*, *Legionella*, *Bordatella* and corynebacteria, but not against Gram-negative rods.

Ansamycins

These include rifampicin and rifabutin, which are active against Grampositive organisms and the mycobacterial species. Rifampicin is used mainly in the treatment of tuberculosis and MRSA.

Lincosamides

The main agent is clindamycin, which is active against Gram-positive aerobes and most anaerobes. The problem of serious diarrhoea (pseudomembranous colitis) has limited its use.

Antibiotic resistance

The continual emergence of resistant strains of organisms remains a serious problem. Resistance-conferring plasmids have been identified in virtually all bacteria. A classic example is the production of β -lactamase enzyme by several organisms, particularly *S. aureus*, which inactivate β -lactam anti-microbials. Most resistances emerging in our community are due to the high levels of antibiotic prescribing for patients in Australia.

Predictable examples of almost 100% resistance include S.~aureus to penicillin and amoxycillin, streptococci to aminoglycosides, enterococci to cephalosporins, Klebsiella to amoxycillin, and Pseudomonas~aeruginosa to amoxycillin \pm clavulanate and most cephalosporins.

Almost half of *E. coli* strains are now resistant to amoxycillin, while 15% are resistant to trimethoprim. Strains resistant to amoxycillin-clavulanate are now being encountered.

Other significant resistances include:

MRSA: this is an ongoing problem in nursing homes and hospitals.
 Resistance to fluoroquinolones such as ciprofloxacin has increased dramatically. Vancomycin remains the mainstay of therapy.

- Vancomycin-resistant enterococci (VRE): a major worldwide nosocomial problem.
- Multidrug-resistant tuberculosis (MDR-TB) is also an emerging problem, especially in HIV patients and some South-East Asian immigrants, especially with isoniazid resistance.
- Penicillin-resistant Neisseria gonorrhoea is a continuing emerging problem in South-East Asia and other developing countries.
- Clostridium difficile proliferation, which is now epidemic status, is resistant to most antibiotics esp. fluoroquinolones and cephalosporins.
 Be alert to it

General guidelines for antibiotic prescribing

Rules of thumb

Choose the agent with the:

- narrowest spectrum that will cover the likely pathogens (based on culture/sensitivity)
- · lowest cost if efficacy and safety are otherwise equal
- · fewest serious side-effects
- duration as short as possible

Avoid whenever possible:

- · combinations if a single drug is likely to be effective
- topical antibiotics, as resistance is much more likely to develop (exceptions include eye infections and vaginitis)
- antibiotic combinations, except in proven clinical circumstances or when coverage is difficult with a single drug
- prophylactic antibiotics, unless they are of proven benefit (in general only in some elective surgery)

Anxiety disorders

Anxiety is an uncomfortable inner feeling of fear or imminent disaster. The criterion for anxiety disorder as defined at the International Classification of Health Problems in Primary Care (ICHPPC-2–Defined) is:

generalised and persistent anxiety or anxious mood, which cannot be associated with, or is disproportionately large in response to a specific psychosocial stressor, stimulus or event.

Classification of anxiety The following list represents approximately the categories of anxiety disorders recognised by the DSM-IV-TR:

- generalised anxiety disorder
- panic disorder with or without agoraphobia
- · specific phobia
- · social phobia
- · phobic disorders

- · obsessive-compulsive disorder
- · post-traumatic stress disorder
- · acute stress disorder
- adjustment disorder with anxious mood
- · somatoform disorder

Generalised anxiety disorder

Generalised anxiety comprises excessive anxiety and worry about various life circumstances and is not related to a specific activity, time or event such as trauma, obsessions or phobias.

Important checkpoints

Five self-posed questions should be considered by the family doctor before treating an anxious patient:

- Is this hyperthyroidism? Is this mild anxiety or simple
- Is this depression? phobia?
- Is this normal anxiety? Is this moderate or severe anxiety?

Management Management applies mainly to generalised anxiety as specific psychotherapy is required in other types of anxiety. Much can be carried out by the family doctor using brief counselling and support:

- Use non-pharmacological methods.
- · Give explanation and reassurance.
- · Promote stress management techniques, inc. meditation.
- · Give advice on coping skills.
- · Avoid the use of drugs if possible.
- · Provide ongoing supportive psychotherapy.

Pharmacological treatment

Acute episodes For intermittent transient exacerbations not responding to other measures.

- diazepam 2–5mg (o) as a single dose repeated bd as required or
- diazepam 5-10mg (o) nocte

Special notes:

- Recommended (if nec.) for up to 2wks, then taper off to zero over next 4wks.
- Reassess in 7d.
- Consider beta-blockers in patients with sympathetic activation such as
 palpitations, tremor and excessive sweating (e.g. propranolol 10–40mg
 (o) tds). They do not relieve the mental symptoms of anxiety, however.

Long-term treatment If non-pharmacological treatment is ineffective for persisting disabling anxiety the drugs of choice are:

- paroxetine 10mg (o) mane increasing to 40mg/d or
- sertraline 25 mg (o) daily, increasing to 200mg/day or
- venlafaxine (modified release) 75mg (o) mane increasing gradually to 225mg/d continue for several wks after symptoms subside and wean off after 6 mths or
- buspirone 5mg (o) tds, increase if nec. to 20mg (o) tds (then as above)

Panic disorder

Patients with panic disorder experience sudden, unexpected, short-lived episodes of intense anxiety. These tend to be recurrent and occur most often in young females. Follow DSM-IV-TR guidelines for diagnosis.

Management

Reassurance, explanation and support (as for generalised anxiety).

Cognitive behaviour therapy This aims to reduce anxiety by teaching patients how to identify, evaluate, control and modify their negative, fearful thoughts and behaviour. If simple psychotherapy and stress management fails, then patients should be referred for this therapy.

If hyperventilating, breathe in and out of a paper bag (\square 302).

Pharmacological treatment Acute episodes:

- diazepam 5mg (o) or
- alprazolam 0.25-0.5mg (o) or
- oxazepam 15–30mg (o) or
- paroxetine 20–60mg (o)

Prophylaxis Benzodiazepines, e.g. alprazolam o.25–6 mg (o) daily in divided doses

Note: Medication should be withdrawn slowly. Medication for panic disorder may need to be continued for 6–12 mths. Antidepressants (e.g. imipramine or SSRIs) can be effective.

Phobic disorders

In phobic states the anxiety is related to specific situations or objects. Patients avoid these situations and become anxious when they anticipate having to meet them.

The three main types of phobic states are: simple phobias, agoraphobia, social phobias.

The ten most common phobias (in order) are spiders, people and social situations, flying, open spaces, confined spaces, heights, cancer, thunderstorms, death and heart disease.

Management The basis of treatment for all phobic disorders is psychotherapy that involves behaviour therapy and cognitive therapy.

Pharmacological treatment This should be used only if non-pharmacological measures fail.

- Agoraphobia with panic: use medications as for panic attacks.
- Social phobia with performance anxiety: propranolol 10–40mg (o) 30–60mins before the social event or performance. Otherwise use an SSRI for problematic social phobia.

Obsessive-compulsive disorder

Management Optimal management is a combination of psychotherapeutic esp. CBT and pharmacological treatment, namely:

- · cognitive behaviour therapy for obsessions
- exposure and response prevention for compulsions
 Drug management includes any one of the SSRIs, e.g. fluoxetine
 10–80mg (o) /d; or paroxetine 10 mg (o) daily or clomipramine

Acute stress disorder

This is abnormal anxiety related symptoms occuring within 4 weeks of a traumatic event and resolving within a 4 week period. The symptoms are grouped as intrusive phenomena, hyperarousal phenomena and avoidance of reminders. Treatment is based on debriefing and counselling.

Post-traumatic stress disorder

PTSD is the symptoms of acute stress disorder persistant for 3–6 months after exposure. Delayed PTSD is onset after 6 months.

Treatment This is difficult and involves counselling, the basis of which is facilitating abreaction of the experience by individual or group therapy. The aim is to allow the patient to face up openly to memories. Persistent symptoms are an indication for referral.

Pharmacological treatment There is no specific indication for drugs but medication can have benefit in the treatment of panic attacks, generalised anxiety or depression.

Aphthous ulcers (canker sores)

Associations to consider:

 blood dyscrasia, denture pressure, Crohn's disease, pernicious anaemia, iron deficiency, excessive stress

Minor ulcers: <5mm in diameter—last 5-10d

Major ulcers: >8 mm in diameter—last weeks and heal with scarring. Refer a non-healing ulcer within 3wks of presentation.

Treatment methods (use early when ulcer worse) Consider applying a wet, squeezed-out, black teabag directly to the ulcer regularly (the tannic acid promotes healing).

Symptomatic relief

- Apply topical lignocaine gel or paint (e.g. SM-33 adult paint formula or SM-33 gel (children) every 3h). If applied before meals, eating is facilitated or
- Eutectic EMLA cream 5g applied on a cotton bud for 5mins

Healing One of the following methods can be chosen:

- Triamcinolone o.r% (Kenalog in orobase) paste apply 8hrly and nocte (preferred method) or
- 10% chloramphenicol in propylene glycol apply with cotton bud for 1min (after drying the ulcer) 6hrly for 3–4d or
- · Hydrocortisone lozenges dissolved on ulcer qid or
- Beclomethasone dipropionate spray onto ulcer tds or
- Dissolve 1g sucralfate in 20–30 mL, of warm water. Use this as a mouth wash or
- · Tetracycline/nystatin mouthwash

Major ulceration—consider:

- · oral prednisolone 25 mg daily 5-7 days or
- · injection of steroids into base of ulcer

Arm and hand pain

The various causes of the painful arm can be considered with the diagnostic model (Table 12).

Pulled elbow

- Usually 2–5yrs
- · Child refuses to use arm

Treatment

- Parental help
- Support elbow with one hand, flex elbow then suddenly twist forearm into full supination or
- · Gently alternate supination and pronation

Note: If uncooperative, send home in sling (may resolve itself)

Tennis elbow

Management

- · Rest from offending activity
- · RICE and oral NSAIDs if acute

Table 12 Pain in the arm and hand: diagnostic strategy model

Q. Probability diagnosis

A. Dysfunction of cervical spine (lower)
Disorders of the shoulder

Medial or lateral epicondylitis

Overuse tendonitis of the wrist

Carpal tunnel syndrome
Osteoarthritis of thumb and DIP

Q. Serious disorders not to be missed

A. Vascular

- angina (referred)
- · myocardial infarction
- axillary venous thrombosis
- Infectionseptic arthritis (shoulder/elbow)
- osteomyelitis
- infections of tendon sheath and fascial spaces of hand

Neoplasia

- · Pancoast's tumour
- bone tumours (rare)

Q. Pitfalls (often missed)

A. Entrapment neuropathies

(e.g. median nerve, ulnar nerve)

Pulled elbow children

Foreign body (e.g. elbow)

Rarities

Polymyalgia rheumatica (for arm pain) Complex regional pain

syndrome

Thoracic outlet syndrome

Erythromelalgia (erythralgia)

Sporotrichosis ('gardener's' arm)

Q. Seven masquerades checklist

A. Depression and spinal dysfunction

Q. Is the patient trying to tell me something?

A. Highly likely, esp. with so-called RSI syndromes.

 Exercises-strengthening, e.g. dumbbell exercise over table—palm facing down for lateral epicondylitis; palm facing up for medial epicondylitis or towelette wringing exercise

Additional (if refractory):

- steroid/LA injection (max. 2)
- · manipulation or
- surgery

Olecranon bursitis

For chronic recurrent traumatic bursitis with a synovial effusion:

- · partial aspiration of fluid
- · inject corticosteroid through same needle

Trigger finger/thumb

Consider an injection of ImL of long-acting corticosteroid with LA into the tendon sheath adjacent to the swelling.

Raynaud's phenomenon and disorder

Exclude and treat underlying causes, e.g. CTDs.

Treatment (options)

- · Total body protection from cold
- · Gloves and thick woollen socks

- · Avoid smoking
- Vasodilators (e.g. amlodipine (o) 5–20mg/d or nifedipine SR 30–60mg/d) in cold weather
- Topical glyceryl trinitrate ointment—over radial artery or dorsum of hand
- · Consider sympathectomy

Chilblains

(D 101).

Carpal tunnel syndrome

Exclude rheumatoid, granulomatous disorders, endocrine disorders, Paget's disease, hypothyroidism

Treatment (options)

- · Surgical decompression (best)
- · Injection of LA corticosteroid into tunnel
- US therapy
- · Neutral wrist splints (bedtime)

Arthritis

Osteoarthritis

Treatment (optimal)

- Explanation: patient education and reassurance that arthritis is not the crippling disease perceived by most patients.
- Rest: during an active bout of inflammatory activity only.
- Exercise: a graduated exercise program is essential to maintain joint function. Aim for a good balance of relative rest with sensible exercise.
- Heat: recommended is a hot water bottle, warm bath or electric blanket to soothe pain and stiffness. Advise against getting too cold.
- Diet: if overweight it is important to reduce weight to ideal level.
- Physiotherapy: referral should be made for specific purposes such as: exercises and supervision of a hydrotherapy program.
- · Occupational therapy: refer for advice on aids in the home.
- Simple analgesics (regularly for pain): paracetamol (avoid codeine or dextroproproxyphene preparations and aspirin if recent history of dyspepsia or peptic ulceration).
- NSAIDs and aspirin are the first-line drugs for more persistent pain
 or where there is evidence of inflammation. The risk versus benefit
 equation always has to be weighed carefully. As a rule, NSAIDs should
 be used sparingly if possible. Aim for short courses of 14–20d. The
 COX2 specific inhibitors should be considered where there is an
 indication for an NSAID but the risk of NSAID-induced ulceration and
 bleeding is high.

- Intrarticular corticosteroids: as a rule IA corticosteroids are not recommended but occasionally can be very effective for an inflammatory episode of distressing pain (e.g. a flare-up in an osteoarthritic knee).
- Viscosupplementation: IA hylans have a use, esp. for OA of knee.
- *Glucosamine*, a natural amine-sugar, has proven value for osteoarthritis, esp. of the knee: 1500–2000mg/d with food, 3–4 mth trial.
- Referral for surgical intervention for debilitating and intractable pain
 or disability. Examples include OA of hip, knee, shoulder, first CMC
 joint of thumb, and first MTP joint.

Rheumatoid arthritis

Investigations

- · ESR usu. raised according to active disease
- · Anaemia (normochromic and normocytic) may be present
- Rheumatoid factor—+ve in ~ 70-80%, not specific
- · Anti-cyclic citrinullated peptide AB test-specific
- · X-ray changes

Management principles Give patient education, support and appropriate reassurance. The diagnosis generally has distressful implications so the patient and family require careful explanation and support. It should be pointed out that the majority of patients have little or no long-term problems. Refer to rheumatologist for shared care.

Specific advice

- Rest and splinting: this is necessary where practical for any acute flareup of arthritis.
- Exercise: it is important to have regular exercise esp. walking and swimming. Hydrotherapy in heated pools.
- Referral to physiotherapists and occupational therapists for expertise in exercise supervision, physical therapy and advice regarding coping in the home and work is important.
- Joint movement: each affected joint should be put daily through a full range of motion to keep it mobile and reduce stiffness.

Pharmaceutical agents

- simple analgesics (e.g. paracetamol) NSAIDs
- 2 glucocorticoids: prednisolone 5-10mg (o) /d Consider: in severe disease or failure of other agents
- 3 DMARDs e.g. hydroxychloroquine gold compounds (IM or orally) D-penicillamine sulfasalazine

immunosuppressive agents, e.g. methotrexate, azathioprine, cyclophosphamide, leflunomide, cyclosporin

Standard initial drug therapy RA

 methotrexate 5-IOmg (o) /wk, ↑to max 25mg depending on clinical response and toxicity + folic acid 5mg tds. Introduce early if indicated.

For failed therapy

 combination of therapy, e.g. methotrexate + sulfasalazine + hydroxychloroquine

Consider: addition of a biological DMARD, e.g. adalimumab, entanercept, anakira.

Connective tissue disorders

The main CTDs have the common feature of arthritis or arthralgia. They include SLE, scleroderma, polymyositis and Sjögren's syndrome. Other common features include vasculitis and multisystem involvement. They are autoimmune diseases and should be referred for shared care.

Systemic lupus erythematosus (SLE)

Arthritis is the commonest clinical feature of SLE (over 90%). It is a symmetrical polyarthritis involving mainly small and medium joints, esp. the proximal interphalangeal and carpal joints of the hand.

The initial presentation is similar to rheumatoid arthritis. If suspected, test ANA and if +ve DNA and ENA Antibodies (Abs).

Investigations

- ESR—proportional to disease activity
- Antinuclear antibodies—+ve in at least 95%
- ds DNA Abs \rightarrow 95% specific for SLE but present in only 60%
- ENA Abs, esp. Sm—highly specific
- Rheumatoid factor—+ve in 50%
- · LE test-inefficient and not used

Drug treatment

- Mild—NSAIDs/aspirin (for arthralgia)
- Moderate—low-dose antimalarials (e.g. hydroxychloroquine)—up to 6mg/kg once/d
- Moderate to severe—corticosteroids (mainstay drug);
 immunosuppressive drugs (e.g. azathioprine, methotrexate + folic acid)
- Consider fish body oil 0.2 mg/kg (0) daily

Scleroderma

This can present as a polyarthritis affecting the fingers of the hand in 25% of patients, esp. in the early stages. Scleroderma mainly affects the skin, presenting with Raynaud's phenomenon in over 85%.

Investigations (no specific diagnostic tests)

- · ESR may be raised
- Antinuclear Abs \rightarrow 90% +ve
- Rheumatoid factor-+ve in 30%
- · Antinucleolar and anticentromere Abs—specific

Treatment

- · Analgesics and NSAIDs for pain
- Avoid vasospasm (no smoking, β blockers, ergotamine)
- · CCBs as for Raynaud's
- · D-penicillamine for skin or systemic involvement
- · Proton-pump inhibitors for GORD

Polymyositis and dermatomyositis

Arthralgia and arthritis occur in $\sim 50\%$ of patients and may be the presenting feature before the major feature of muscle weakness and wasting of the proximal muscles of the shoulder and pelvic girdles appear. The small joints of the hand are usually affected and it may resemble rheumatoid arthritis. Polymyositis + associated rash = dermatomyositis.

Sjögren's syndrome (SS)

SS is the dry eyes (kerato conjunctivitis sicca) in absence of any other autoimmune disease.

Features: dry eyes, dry mouth, arthralgia

Diagnosis: +ve ENA. Ro (SSA). La (SS-B) Abs

Treatment: symptomatic for sicca; hydroxychloroquine or steroids for arthritis

Crystal arthritis

Arthritis, which can be acute, chronic or asymptomatic, is caused by a variety of crystal deposits in joints. The three main types of crystal arthritis are monosodium urate (gout) (see 🗅 262), calcium pyrophosphate dihydrate and calcium phosphate (usually hydroxyapatite).

The spondyloarthropathies

The spondyloarthropathies are a group of disorders with common characteristics affecting the spondyles (vertebrae) of the spine. Apart from back pain this group tends to present with oligoarthropathy in younger patients (see \square 59).

The group includes: ankylosing spondylitis; reactive arthritis; inflammatory bowel disease (enteropathic arthritis); psoriatic arthritis; juvenile chronic arthritis; unclassified spondyloarthritis—partial features only.

Ankylosing spondylitis

This usually presents with inflammatory back pain (sacroiliac joints and spine) and stiffness in young adults and 20% present with peripheral joint involvement before the onset of back pain. It usually affects the girdle joints (hips and shoulders), knees or ankles.

Key clinical features

- · Insidious onset of discomfort
- · Age less than 40yrs
- Low back pain persisting for > 3mths
- Associated morning stiffness > 30 mins
- · Improvement with exercise or NSAIDs, not relieved by rest
- · Sacroiliitis
- · Limitation of lumbar spinal motion in sagittal and frontal planes

Reactive arthritis

This is a form of reactive arthropathy in which non-septic arthritis and often sacroiliitis develop after an acute infection with specific venereal or dysenteric organisms.

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Reiter syndrome = NSU + conjunctivitis ± iritis + arthritis
Reactive arthritis = similar syndrome without ocular or
mucocutaneous lesions
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Enteropathic arthritis

Inflammatory bowel disease (ulcerative colitis, Crohn's disease and Whipple's disease) may be associated with peripheral arthritis and sacroiliitis.

Psoriatic arthritis

Like Reiter's syndrome, this can develop a condition indistinguishable from ankylosing spondylitis. It is therefore important to look beyond the skin condition of psoriasis, for $\sim 5\%$ will develop psoriatic arthropathy.

Management principles of spondyloarthropathies

- Identify the most active elements of the disease and treat accordingly.
- Provide patient and family education with appropriate reassurance.
- Refer for physiotherapy for exercises, postural exercises and hydrotherapy.
- Pharmacological agents:
 - NSAIDs (e.g. indomethacin 75–200mg/d) to control pain, stiffness and synovitis
 - sulfasalazine (if NSAIDs ineffective)
 - intra-articular corticosteroids for severe monoarthritis and intralesional corticosteroids for enthesopathy
 - immunosuppressive agents, e.g. methotrexate, for severe cases

Lyme disease

Lyme disease (known as Lyme borreliosis) is caused by a spirochete, *Borrelia burgdorferi*, and transmitted by *Ixodes* ticks, in particular the deer tick.

Diagnostic serology should be considered for patients with a history of tick bites, typical rash (a doughnut-shaped red rash \sim 6cm in diameter) at the bite site, heart disorders (esp. arrhythmias), unusual joint arthralgia or CNS disease (usually large joints, e.g. knees).

Treatment Treatment is with penicillin, tetracycline or cephalosporins (e.g. doxycycline 100mg bd for 21d).

The vasculitides

The vasculitides or vasculitis syndromes are a heterogeneous group of disorders involving inflammation and necrosis of blood vessels, the clinical effects and classification depending on the size of the vessels involved.

More common causes are the small vessel vasculitis effects associated with many important diseases such as rheumatoid arthritis, SLE, infective endocarditis, Henoch–Schonlein purpura and Hepatitis B. Skin lesions and arthritis are usually associated with these disorders.

The major vasculitides are:

- · polyarteritis nodosa
- giant cell arteritis/polymyalgia rheumatica
- Wegener's granulomatosis
- · Behcet's syndrome
- · Churg-Strauss vasculitis
- · Takayasu's arteritis

The problem is fatal kidney disease if undiagnosed. If suspected order an ANCA test.

Note: If a CTD or vasculitide is suspected always dipstick urine (+ blood and albumin), micro-urine and check BP. If +ve indicates kidney disease and need for referral.

Asthma

Definition of good control of asthma

- · Minimal symptoms day and night
- · No nocturnal waking due to asthma
- · No limitation of physical activity
- No overuse of β_2 -agonist
- No exacerbation
- · No side-effects of medication
- Normal lung function FEV_T ± PEFR > 80% predicted of best

Pharmacological agents to treat asthma

It is useful to teach patients the concept of the 'preventer' and the 'reliever' for their asthma treatment.

'Preventer' drugs or anti-inflammatory agents

These medications are directed toward the underlying abnormalities bronchial hyper-reactivity and associated airway inflammation. They are *underused* in practice.

Treatment with a preventer medication is recommended if asthma episodes > 3/wk or those who use SABA > 3times/wk.

Six big advances in the management of asthma

- The realisation that asthma is an inflammatory disease. Therefore, the appropriate first-line treatment in moderate to severe asthma is inhaled cromolyn or corticosteroids.
- 2. Regular monitoring with spirometry.
- 3. The use of spacers attached to inhalers/puffers for all ages.
- 4. Improved and more efficient inhalers, such as Turbuhalers.
- 5. The availability of long-acting steroids and β_2 -agonists, inc. a combination of these agents.
- 6. The availability of leukotriene antagonists.

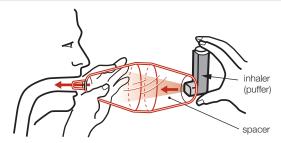


Figure 21 Using a spacer device. Rules: children—single puffs then 4 or 5 breaths (repeat after several seconds if necessary); adults—single puff, 1–4 deep breaths

Corticosteroids

Inhaled: Types—beclomethasone, budesonide, ciclesonide, fluticasone (long acting).

Dose range: 400–1600 mcg (adults) aim to keep below 400 mcg (children), 1000 mcg (adults)

Note: Rinse mouth out with water and spit out after using inhaled steroids

Oral: Prednisolone is used mainly for exacerbations, given with the usual inhaled corticosteroids and bronchodilators. Dose: up to rmg/kg/d for r-2wks

Sodium cromoglycate (SCG) This mast cell stabiliser is available as dry capsules for inhalation, metered dose aerosols or as a nebuliser solution. The availability of the metered aerosol and spacer has helped the use of SCG in the management of asthma in children.

Nedocromil sodium A newer non-steroid cromolyn metered aerosol. The initial dose is 2 inhalations qid.

Leukotriene antagonists These new agents, which include montelukast and zafirlukast, are very useful for seasonal asthma and aspirin-sensitive asthma and may reduce the need for inhaled steroids.

'Reliever' drugs or bronchodilators

The three groups of bronchodilators are:

- the β_2 -adrenoceptor agonists (β_2 -agonists)
- · methylxanthines—theophylline derivatives
- · anticholinergics

 eta_2 -agonists Oral administration of eta_2 -agonists is rarely required. The inhaled drugs produce measurable bronchodilatation in I-2mins and peak effects by IO-20 mins. The traditional agents such as salbutamol and terbutaline are short-acting preparations (SABA). All patients should be prescribed a reliever. The new longer acting agents (LABA) include salmeterol and eformoterol. LABA should only be used in combination, never as monotherapy.

Combination therapy

- inhaled corticosteroids (ICS) + LABA Rules: use for moderate–severe asthma
- The different types should be used in different ways.
- When stabilised, drop LABA component and return to ICS.

Fixed dose combination medication.

 fluticasone + salmeterol = Seretide MDI: 50/25; 125/25; 250/25mg

Dose: adults: 2 inhalations bd; children 4-12: 2 inhal 50/25 bd

Accuhaler: 100/50; 250/50; 500/50

Dose: adults: 1 inhal bd; children 4-12: 1 inhal 100/50 bd

• budesonide + eformoterol = Symbicort

Turbuhaler: 100/6; 200/6; 400/12

Dose: I=2 inhal bd, according to age and need children > I2: 100/60 or 200/6

Maintenance plan for persistent asthma—adult (example)

- Inhaled short acting β₂-agonist, prn
- Inhaled steroid (dose according to severity) (can use a cromolyn if milder asthma)

If more severe with inadequate control, stepwise options to add:

- longer acting inhaled steroid bd (if using shorter acting steroid which should be ceased)
- long acting $\beta_{_2}\text{-agonist}$ separate or combined with above
- · theophylline (o) controlled release
- · inhaled ipratropium
- · leukotriene antagonist
- · oral prednisolone prn

For attack

High dose inhaled bronchodilators (spacer preferred)
 25 kg up to 6 puffs
 25-35 kg 8 puffs
 35 kg 12 puffs

Prophylactic agents This term is reserved for those medications that are taken prior to known trigger factors, particularly exercise-induced asthma.

Exercise-induced asthma

- β_2 -agonist inhaler (puffer); two puffs immediately before exercise last 1–2h. LABAs are more effective.
- Cromoglycate or nedocromil, two puffs (5–10 mins before)
- Montelukast 10mg (less in children ≥ 2yrs) (o) daily 1-2h before
- Combination β -agonist + cromoglycate or nedocromil

Asthma action plan (example)

If you are distressed with severe asthma:

- · Call an ambulance and say 'severe asthma attack' (best option) or
- · Call your doctor or
- If you are having trouble finding medical help, get someone to drive you to the nearest hospital.
- Follow the '4 × 4 × 4' rule with reliever medication but keep using your bronchodilator inhaler continuously if you are distressed.

The acute asthma attack

Adult dosage

- Continuous nebulised salbutamol with O₂ 8 L/min (if nebuliser not available: 6–12 puffs of β₂-agonist inhaler, preferably with spacer, using one loading puff at a time following by 4–6 breaths)
- · Insert IV line

Asthma First Aid Action Plan

Name			
Contact Dr		Tel	
Ambulance	tel		

- 1 Sit upright and stay calm.
- 2 Take 4 separate puffs of a reliever puffer (one puff at a time) via a spacer device. Just use the puffer on its own if you don't have a spacer. Take 4 breaths from the spacer after each puff.
- 3 Wait 4 minutes. If there is no improvement, take another 4 puffs.
- 4 If little or no improvement

CALL AN AMBULANCE IMMEDIATELY (DIAL ooo

and/or 112 from mobile phone) and state that you are having an asthma attack. Keep taking 4 puffs every 4 minutes until the ambulance arrives.

See your doctor immediately after a serious asthma attack.

If slow response

- A second nebuliser using salbutamol 2 mL, ipratroprium bromide 2 ml, with 4 ml, N saline
- · Hydrocortisone 250mg IV statim

If poor response or if in extremis

- Adrenaline 0.5 mg 1:1000 IM or 1:10 000 IV (1 mL, over 30 seconds) with monitor or Salbutamol 200–400 mcg IV over 2 mins
- Magnesium sulfate 25–100 mg/kg (max 1.2–2 g) IV over 10 minutes
- · Chest X-ray to exclude complications
- · Arterial blood gases/pulse oximetry then
- · IV infusion of salbutamol and hydrocortisone

Children

Should be referred to an intensive care unit:

- Continuous nebulised 0.5% salbutamol via mask
- · Oxygen flow 6-8 L/min through nebuliser
- · IV infusion of:
 - salbutamol 5mg/kg/min
 - hydrocortisone 4mg/kg statim then 6hrly

Common mistakes in children

- Using assisted mechanical ventilation (can be dangerous—main indications are physical exhaustion and cardiopulmonary arrest)
- Not giving high flow oxygen
- · Giving excessive fluid
- · Giving suboptimal bronchodilator therapy

Asthma in children

Key checkpoints

• Bronchodilators, inhaled or oral, are ineffective under 12mths.

- The delivery method is a problem in children and Table 13 gives an indication of what systems can be used at various levels.
- In the very young (e.g. 1–2yrs) a spacer with a face mask can deliver the aerosol medication.

Table 13 Delivery systems for asthma in children

		Age in years		
Vehicle of administration	Less than 2	2-4	5-7	7 to 8 and over
Inhaler alone			*	√
Inhaler + spacer		$\sqrt{}$	√	√
Inhaler + spacer + face mask or aerochamber	√	√		
Turbuhaler			*	V
Nebuliser/ air compressor/ face mask	V	√	√	√
Spincaps			*	√
Rotacaps			*	V

^{*} Possible in some individual children.

Table 14 Stepwise interval management plan for children

Grade of asthma	Therapeutic agents	
Mild—infrequent episodic attack not severe > 6–8 wks apart	SABA prn	
Moderate—frequent episodic	SABA prn and • montelukast esp. 2–5 yo: 4mg (o) nocte 6–14 yo: 5mg (o) nocte • or cromolyn • or ICS—min effective dose, e.g. beclomethasone 100–200mcg/d, budesonide 200–400mcg/d	
Severe—persistent asthma	SABA prn and ICS, e.g. beclomethasone cooperation of the second of the	

- It is recommended to wash spacers in soapy water or detergent and leave to dry on a towel every 7d.
- The PEF rate should be measured in all asthmatic children older than 6yrs. It is unreliable before 7yrs.
- Turbuhaler is usually not practical under 7-8yrs.

Prophylaxis in children The non-steroid medication montelukast (oral) and SCG or nedocromil by inhalation is the prophylactic drug of choice in childhood chronic asthma of mild to moderate severity.

If there is no clinical response to the cromolyns, use inhaled corticosteroids, but the risks versus benefits must always be considered. Aim for a maintenance of 100–250mcg of beclomethasone dipropionate or equivalent (higher doses best with specialist co-care), which keeps the child symptom-free. One or two attacks only is not an indication to start corticosteroids.

Leukotriene antagonists (e.g. montelukast 5mg chewable tablet nocte) in those aged 6–14yrs is another option.

| B |

Back pain

This section includes low (lumbosacral) back pain and thoracic back pain.

Low back pain (LBP)

The most common cause of LBP presenting to the doctor is dysfunction of the spinal intervertebral joints (mechanical back pain or back strain/'sprain') due to injury. This problem accounts for ~72% of cases of LBP, while lumbar spondylosis (degenerative osteoarthritis) is responsible for ~10% of cases of painful backs presenting to the GP. Musculoligamentous strain is common but usually settles in days. The management of back pain depends on the cause.

Table 15 Low back pain: diagnostic strategy model

O. Probability diagnosis

- **A.** Vertebral dysfunction esp. facet joint and disc
 - Spondylosis (degenerative OA)

 Serious disorders not to be
- Q.Serious disorders not to be missed
- A. Vascular
 - · ruptured aortic aneurysm
 - retroperitoneal haemorrhage (anticoagulants)

Infection

- osteomyelitis
- · epidural abscess
- · septic discitis
- tuberculosis
- · pelvic abscess/PID

Neoplasia

- myeloma
- metastases

Cauda equina compression Osteoporotic fracture

Note: Associated buttock and leg pain included.

Q.Pitfalls (often missed)

- A. Spondyloarthropathies
 - · ankylosing spondylitis
 - · reactive arthritis
 - psoriasis
 - bowel inflammation

Sacroiliac dysfunction Spondylolisthesis

Claudication

- vascular
- neurogenic
 Prostatitis

Endometriosis

- Q.Seven masquerades checklist
- A. Depression, spinal dysfunction, UTI
- Q.Is this patient trying to tell me something?
- A. Quite likely many 'yellow flags'. Consider lifestyle, stress, work problems, malingering, conversion reaction

Summary of diagnostic guidelines for spinal pain

 Continuous pain (day and night) = neoplasia, esp. malignancy or infection.

- · The big primary malignancy is multiple myeloma.
- The big 3 metastases are from lung, breast and prostate.
- The other 3 metastases are from thyroid, kidney/adrenal and melanoma.
- Pain with standing/walking (relief with sitting) = spondylolisthesis.
- Pain (and stiffness) at rest, relief with activity = inflammation.
- In a young person with inflammation think of ankylosing spondylitis, Reiter's syndrome or reactive arthritis. Stiffness at rest, pain with or after activity, relief with rest = osteoarthritis.
- Pain provoked by activity, relief with rest = mechanical dysfunction.
- Pain in bed at early morning = inflammation, depression or malignancy/infection.
- Pain in periphery of limb = discogenic → radicular or vascular → claudication or spinal canal stenosis → claudication.
- Pain in calf (ascending) with walking = vascular claudication.
- Pain in buttock (descending) with walking = neurogenic claudication.
- One disc lesion = one nerve root (exception is L5-SI disc). One nerve root = one disc (usu.).
- Two or more nerve roots—consider neoplasm.
- The rule of thumb for the lumbar nerve root lesions is L3 from L2-3 disc, L4 from L3-4, L5 from L4-5 and S1 from L5-S1.
- A large disc protrusion can cause bladder symptoms, either incontinence or retention.
- A retroperitoneal bleed from anticoagulation therapy can give intense nerve root symptoms and signs.

Red flag pointers for back pain

- age >50 years and <20 years
- · history of cancer
- temperature >37.8°C; night sweats
- · constant pain—day and night
- · unexplained weight loss
- · significant trauma (e.g. MVA)
- osteoporosis ♀ >50 years; ♂ >60 years
- use of anticoagulants and corticosteroids
- no improvement over 1 month
- · neurological deficit
- · possible cauda equina syndrome

Vertebral dysfunction with non-radicular pain (non-specific LBP)

Typical features

· The common cause of LBP

- Usu. due to dysfunction (injury) of the pain-sensitive facet joint ± a minor disc disruption
- Pain usu, unilateral; can be central or bilateral
- No investigations needed for acute pain <2wks if no red flags

Management—acute LBP (only) without spasm

- No bed rest—normal daily activities; keep active, return to work if possible
- · Back education
- Regular simple analgesics (e.g. paracetamol, ibuprofen or aspirin)
- Exercise program (when exercises do not aggravate)
- Swimming (if feasible)
- NSAIDs: 14d (only if evidence of inflammation)
- Spinal stretching, mobilisation or manipulation if needed after review in 4–5d

Most of these patients can expect to be relatively pain free and able to return to work within 14d.

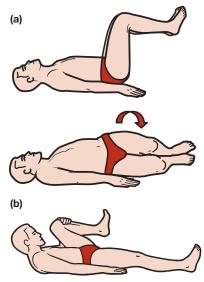


Figure 22 Examples of exercises for LBP: (a) rotation exercise; (b) flexion exercise

Chronic LBP (pain >3mths)

Investigations Consider: plain X-ray, ESR, urine analysis, PSA (δ >50 yrs)

Management

- · Back education
- Normal activities
- · Analgesics or paracetamol
- NSAIDs: 14d (if inflammation)
- · Exercise program
- Trial of manipulation (if untried) × 3, if no contraindications
- · Referral for physiotherapy
- Consider amitriptyline 10–25 mg (o) nocte increasing to max 75–100 mg

Vertebral dysfunction with radiculopathy (sciatica)

Management If abnormal neurological signs (e.g. foot drop) investigate with plain X-ray, CT scan ± MRI.

Sciatica is a more complex and protracted problem to treat, but most cases will gradually settle within 12wks if the following approach is used:

- Relative rest for up to 3d at onset (keep the spine straight—avoid sitting in soft chairs and for long periods)
- · Resume activity ASAP
- · Regular non-opioid analgesics with review as the patient mobilises
- NSAIDs: 14d
- If severe unrelieved pain add tramadol 50–100 mg (o) or oxycodone 5–10 mg (o) 4 hourly as necessary, for short-term use
- Consider steroids for acute severe pain, e.g. prednisolone 50 mg for $5d \rightarrow 25mg \rightarrow taper$ to 0 (3wks total)
- · Back education
- · Exercises—straight-leg raising exercises to pain tolerance
- · Swimming
- Traction (with care)
- Epidural anaesthesia (if slow response)

Guidelines for possible surgical intervention The most common disc prolapses are L4-5, L5-S1

- Bladder/bowel disturbances
- Progressive motor disturbance (e.g. increased foot drop, quadriceps weakness)
- Intense prolonged pain with no reponse to 6 weeks treatment and imaging shows a lesion corresponding to symptoms

Lumbar spondylosis

Typical profile

- >5oyrs: ↑ with age
- · Dull nagging LBP

- Stiffness, esp. in mornings (main feature)
- Aggravated by heavy activity, bending (e.g. gardening)
- · Relief by gentle exercise, hydrotherapy
- All movements restricted

Note: Tends to cause spinal canal stenosis with neurogenic claudication, which responds well to surgical decompression.

Management

- Basic analgesics (depending on patient response and tolerance)
- · NSAIDs (judicious intermittent use)
- · Appropriate balance between light activity and rest
- Exercise program and hydrotherapy (if available)
- · Regular mobilisation therapy may help
- · Consider trials of electrotherapy, such as TENS and acupuncture

Spondylolisthesis

About 5% of the population have spondylolisthesis but not all are symptomatic. The pain is caused by extreme stretching of the interspinous ligaments or of the nerve roots, or a disc lesion.

Diagnosis is confirmed by lateral X-ray (Fig. 23).

Management

- Strict flexion exercise program for at least 3mths (avoid hyperextension)
- Passive spinal mobilisation may help some

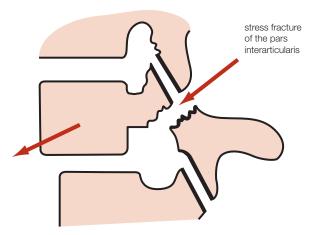


Figure 23 Spondylolisthesis: illustrating a forward shift of one vertebra on another

- · Lumbar corsets help but avoid if possible
- · Surgery is last recourse

The spondyloarthropathies

The seronegative spondyloarthropathies are a group of disorders characterised by involvement of the sacroiliac joints with an ascending spondylitis and extraspinal manifestations such as oligoarthritis and enthesopathies $(\triangle 46)$.

Typical features

- Young men 15-30
- · Aching throbbing pain of inflammation
- · LBP radiating to buttocks
- · Back stiffness, esp. in mornings
- · Absent lumbar lordosis
- · Positive sacroiliac stress tests

Diagnosis confirmation: X-ray of pelvis (sacroiliitis)

Bone scans and CT scans

ESR usu. elevated

HLA-B₂₇ antigen positive in >90%

Treatment The earlier the treatment the better the outlook for the patient; the prognosis is usu. good:

- · Advice on good back care and posture
- Exercise programs to improve the range of movement
- · Drug therapy, esp. tolerated NSAIDs (e.g. indomethacin)
- Sulfasalazine—a useful second-line agent if the disease progresses despite NSAIDs. Consider methotrexate and other DMARDs.

Thoracic back pain

Thoracic (dorsal) back pain which is common in people of all ages is mainly due to dysfunction of the joints of the thoracic spine, with its unique costovertebral joints.

Muscular and ligamentous strains may be common, but rarely come to light in practice because they are self-limiting and not severe.

This dysfunction can cause referred pain to various parts of the chest wall and can mimic the symptoms of various visceral diseases, such as angina, biliary colic and oesophageal spasm.

Intervertebral disc prolapse is very uncommon in the thoracic spine and then occurs below T9, usu. TII—I2, but it is a target for bony metastases (see red flags p 56) and 'not to be missed' disorders for LBP.

Scheuermann's disorder

Typical features

- Age 11-17
- · Males > females
- Lower thoracic spine T9-12
- Thoracic pain or asymptomatic
- Increasing thoracic kyphosis over 1-2mths
 - · Cannot touch toes
 - · Diagnosis confirmed by X-ray (Schmorl's nodes etc.)

Treatment

- · Explanation and support
- · Extension exercises, avoid forward flexion
- Postural correction
- · Avoidance of sports involving lifting and bending
- · Consider bracing or surgery if serious deformity

Idiopathic adolescent scoliosis

The vast majority of curves, occurring equally in boys and girls, are mild and of no consequence. 85% of significant curves in adolescent scoliosis occur in girls. Such curves appear during the peripubertal period, usu. coinciding with the growth spurt. The screening test (usu. in II–I3 yo) is to note the contour of the back on forward flexion. Io% of normal adolescents have a curve of >5% but only I–2% >10%.

Investigation A single erect PA spinal X-ray is sufficient; the Cobb angle is the usual measurement yardstick.

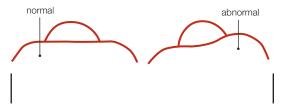


Figure 24 Screening for idiopathic adolescent scoliosis: testing asymmetry by forward flexion

Management aims

- · Preserve good appearance—level shoulders and no trunk shift
- Prevent increasing curve in adult life: less than 40°
- · Not to produce a straight spine on X-ray
- · Refer for expert opinion

General rules for Cobb angle

- <20° observe
- 20-40° brace
- >40° surgery

Kyphosis

Kyphosis is the normal curve of the thoracic spine when viewed from the side. The normal range is $20-45^{\circ}$ with the angle measured between the uppermost and lowermost inclined vertebrae on the lateral X-ray. An excessive angle (>45-50°) occurs with a kyphotic deformity which usually presents in childhood and is congenital. Consider referral if >50°.

Dysfunction of the thoracic spine

Also called thoracic hypomobility syndrome, this is the outstanding cause of pain (often interscapular) presenting to the practitioner, is relatively easy to diagnose and usu. responds dramatically to a simple spinal manipulation treatment (beware of spinal disease, esp. osteoporosis).

Association: Chronic poor posture

Diagnosis confirmation: Examination of spine, X-ray (mainly to exclude disease)

Management

- · Continued activity if pain permits
- · Explanation and reassurance
- · Back education program
- Spinal manipulation (very effective)
- · Spinal mobilisation (if manipulation contraindicated)
- · Simple analgesics as required
- · Exercise program, esp. extension exercises
- · Posture education

Bad news (breaking bad news)—guidelines

A. For unexpected death e.g. motor accident

Do's

- Personal contact of relative/s, preferably by doctor
- Be well-prepared: check facts, plan approach
- · Use suitable quiet private room (not to be disturbed)
- · Provide empathy, support, understanding, sensitivity
- · Be honest, direct
- · Allow time, opportunities to react and question
- · Allow silence, touching and free expression of emotions

- · Allow viewing of a dead or injured body
- · Provide appropriate follow-up and ongoing support

Don'ts

- · Delaying contact
- · Rushing the interview
- Fudging
- Being blunt

- Withholding the truth or getting facts wrong
- · Giving platitudes and euphemisms
- False reassurance

B. For sharing bad personal news (Table 16)

- Plan the consultation, check facts, set aside ample time.
- Meet in an appropriate room with privacy and no interruption.
- · Ask the patient if they would like company (e.g. a relative or friend).
- Make good eye contact and be alert for non-verbal responses.
- · Use simple, understandable language.
- Be honest and diplomatically to the point (don't cover up the issue).
- · Allow time, silence, tears or anger.
- Avoid inappropriate methods (refer to 'Dont's' above) and don't give precise predictions about life expectancy.

Table 16 Seven-step protocol for breaking bad news

Assess the patient's interest in and capacity for detailed information.

Establish the patient's beliefs about the illness and what he or she wants to know.

Provide accurate information in small doses, checking regularly what has been understood.

Monitor how the patient feels about the problem and what has been said.

Repeat the messages as the illness progresses, especially after each new step of management and/or deterioration.

Involve family members as much as the patient wants.

Plan for continued involvement. An assurance of continuing contact between doctor and patient is important.

Bereavement and coping with loss

Bereavement or grief is the emotional response to loss, with a complex amalgam of anger, sadness, helplessness, guilt, yearning and despair.

Stages The usual normal stages are:

- I Shock or disbelief: hrs to days
- 2 Grief and yearning: 6wks+
- 3 Despair—social withdrawal, sadness, hopelessness: ~6 mths 2–3 include anger, guilt & self-blame
- 4 Adaptation and acceptance, includes: apathy, depression, physical ailments: I or more yrs

Role of GP

- · Provide basic counselling and ongoing support
- · Provide patient handouts
- · Refer to grief counsellor, religious groups, support groups, e.g. SIDS
- · Watch for morbid or pathological grief

Rules The bereaved may:

- · feel very guilty
- · be angry towards you or others
- · need a clear, gentle explanation about cause and manner of death
- · need to sense you are genuinely interested
- · need to work through stages of grief

Balanitis (balanoposthitis)

Balanitis is inflammation of the foreskin, which usu. affects the glans penis and tissues behind the foreskin (balanoposthitis).

Causative factors

- Phimosis
- · Poor hygiene
- · Candida albicans infection
- Diabetes
- · Reiter's syndrome (esp. if asymptomatic)

Treatment

- Mild cases may be treated with gentle saline bathing, a barrier cream
 or hydrocortisone 1% to tip of penis, and then application of an
 antibacterial ointment, e.g. fucidin, if more severe
- · Take swabs for culture
- · Careful washing behind foreskin

If yeasts present—topical nystatin or imidazole cream (e.g. clotrimazole 1% for 5 days)

If trichomonads present—metronidazole or tinidazole (oral treatment)

If bacteria present (usu. cellulitis)—appropriate topical antibiotic (e.g. chloramphenicol); if severe, di(flu)cloxacillin (o) or IV

Thickening of the foreskin with skin pallor suggests balanitis xerotica obliterans, which may respond to corticosteroid cream if it is mild. Can result in phimosis, usu. 10–12 yrs. Circumcision is indicated for recurrent problems.

Mild cases with phimosis in children Apply 0.05% betamethasone cream tds for 10 days.

Bed sores (pressure sores)

<u>Z__S</u>

Figure 25 The decubitus ulcer is typically undermined at the edges

Management

Prevention

- · Identifying patient at risk, e.g. Norton scale assessment
- Good nursing care, inc. turning patient every 2h (90% of pressure ulcers are preventable)
- · Special care of pressure areas, inc. gentle handling
- Special beds, mattresses (e.g. air-filled ripple) and sheepskin to relieve pressure areas
- · Good nutrition and hygiene
- · Avoid smoking
- · Control of urinary and faecal incontinence
- Avoid the donut cushion

Treatment of ulcer

The most important principle is early intervention, including relief of pressure, friction and shear.

Use above measures, plus:

- Clean base with saline solution (applied gently via a syringe) or Intra Site Gel (most antiseptics damage cells—use o.5–1% Betadine)
- · General guidelines for dressings:
 - deep ulcers: alginates (e.g. Tegagel, Kaltostat)
 - shallow ulcers: hydrocolloids (e.g. Duoderm, Cutinova Hydro)
 - dry or necrotic ulcers: hydrogels (e.g. Intra Site)
 - heavy exudative ulcers: foams (e.g. Lyofoam)
- Give vitamin C, 500mg bd
- Give antibiotics for spreading cellulitis (otherwise of little use)
- · Remove dressings with care, if nec. under shower
- Healing is usu. satisfactory but, if not, surgical intervention with debridement of necrotic tissue and skin grafting may be necessary

Belching (aerophagia)

(Patient swallows air without admitting it)

- · Make patient aware of excessive swallowing and belching.
- · Advise patient to:
 - avoid fizzy (carbonated) soft drinks
 - avoid chewing gum
 - don't drink with meals

- don't mix proteins and starches
- eat slowly and chew food thoroughly before swallowing
- eat and chew with the mouth closed

If persistent: Simethicone preparation (e.g. Mylanta II, Phazyme).

If desperate: Place a small cork between the back teeth after meals for 30mins.

Bell's (facial nerve) palsy

Prednisolone 50mg (o) daily for 4 days, then taper to zero over next 7d (start within 3d of onset). Evidence unconvincing for this and aciclovir but considered applicable for more severe cases. Use aciclovir for Ramsay-Hunt syndrome (see 292).

- · Patient education and reassurance
- Adhesive tape or patch at night over eye if corneal exposure
- · Artificial tears if eye dry, esp. at night
- · Massage and facial exercises during recovery
- About 80% spontaneous recovery

Benzodiazepine problems

Long-term use should be avoided and care should be taken with 'new patients' requesting a prescription. Have a firm prescribing policy, e.g. reserving for:

- situational anxiety affecting lifestyle (e.g. plane travel—intermittent short use only)
- self-perpetuating anxiety following a precipitating event, not responding to counselling etc. (give short course 2-4wks)
- · emergency short-term use for agoraphobia and panic attacks

Benzodiazepine withdrawal syndrome

This syndrome is usu. relatively delayed in its onset and may continue for weeks or mths. Withdrawal features include:

- anxiety (rebound)
- depression
- insomnia
- insomnianausea

- loss of appetite
- tremor
- · confusion

An effective management method is to withdraw the drug very slowly while providing counselling and support, including referral to a self-help group. Antidepressants can be substituted if there is evidence of depression, while beta-blockers may help the withdrawal syndrome if other measures have failed.

Biological terrorism

It is important to be aware of potential micro-organisms that might be used to strike the community in bio-terrorism attacks. Transmission of these agents is difficult but possible. All agents mentioned are transmitted by aerosol inhalation except cholera (through water and food), botulism (also through food) and some via vectors (plague, haemorrhagic fevers and tularaemia).

Inhalation anthrax

The usual pattern is that anthrax spores are inhaled into the lungs and multiply to form 'lesions' in ~48h, resulting in an influenza-like illness.

Chest X-rays will reveal bilar lymphadenopathy; hence, the importance of ordering an X-ray if suspected in a patient with a sudden illness and dry cough.

Once a patient becomes 'septic' there is a 90% mortality.

Action (Ideally by day 2—the earlier the better prognosis)

- · Diagnosis-chest X-ray
- · Contact infectious diseases branch (Department of Health)
- · Patient retrieval with blood culture
- · Standard isolation

Treatment

- Ciprofloxacillin
 - 10mg/kg up to 400mg IV, 12 hrly
 - change to oral therapy (total course of 6od) or
 - doxycycline IV (then oral)
- Add I or 2 other agents, e.g. amoxycillin

Table 17 Potential micro-organisms for biological terrorism

Disease	Incubation period	Lethality without treatment
Anthrax (inhalation) Botulism Brucellosis Cholera Melioidosis & Glanders Pneumonic plague Q fever Smallpox Tularaemia Viral encephalitides Viral haemorrhagic fevers	1-6d 1-5d 5-6od 4h to 5d 1-21d (average 9d) 2-3d 2-14d 7-17d (average 12d) 1-21d (average 4d) 1-15d 4-21d	High High Low Moderate to high Moderate High Low Moderate to high Moderate Low to moderate Moderate to high

Post-exposure prophylaxis

• Ciprofloxacillin—15mg/kg up to 500mg (o) bd, for 60d

Botulism

Typical symptoms: weakness, dry mouth, diplopia, ptosis, facial weakness, dysphagia, progress to respiratory difficulty and weakness in the limbs. Fixed dilated pupils are also a feature.

Action if suspected

- · Notify health authorities
- Admit to hospital: may need respiratory support, assays for toxins in serum, stool, food

Treatment

- · Trivalent antitoxin (caution with horse serum)
- · Guanidine HCl (may help!)
- · Supportive measures

Pneumonic plague

The concern is *primary plague pneumonia* due to inhaled infected drops—bio-terrorists can weaponise it for airborne delivery. It causes weakness and malaise, then a fulminant pneumonitis with bloody, frothy sputum and sepsis. There is tachypnoea and dyspnoea but no pleurisy. It is usu. rapidly fatal within a few hrs unless treated.

Action plan

- · Notify health authorities
- · Admit to hospital, place in strict respiratory isolation

Treatment

- · Streptomycin IM qid for 7d, plus
- · Tetracycline (oral)

Ricin

Ricin is a white, highly toxic natural protein derived from the husks of the castor bean. It is potentially lethal if ingested, causing respiratory and circulatory failure. There is no antidote.

Smallpox

This hitherto eliminated disease caused by the variola virus is highly contagious with a high mortality. It starts with a prostrating febrile illness and macular rash which develops into a characteristic vesicular and pustular rash in a centrifugal distribution, particularly on the face, oral mucosa and arms. Vaccination is the key to management in anticipation of bio-terrorism. There is no appropriate anti-viral agent at present although the experimental agent, cidofovir, shows promise.

Viral haemorrhagic fevers are treated with ribavirin.

Bites and stings

Bites and stings from animals, spiders, marine stingers and insects in Australia are commonplace but fatal bites are uncommon.

Bite wounds

Snake bites

Most bites do not result in envenomation, which tends to occur in snake handlers or in circumstances where the snake has a clear bite of the skin.

First aid

- · Keep the patient as still as possible.
- Do not wash, cut or manipulate the wound, or apply ice or use a tourniquet.
- Immediately bandage the bite site firmly (not too tightly). A crepe bandage is ideal: it should extend above the bite site for as high as possible, at least 15 cm (e.g. if bitten around the ankle, the bandage should cover the leg to above the knee).
- Splint the limb to immobilise it: a firm stick or slab of wood would be ideal.
- Transport to a medical facility for definite treatment. Do not give alcoholic beverages or stimulants.

Note: A venom detection kit can be used to examine a swab of the bitten area or a fresh urine specimen (the best) or blood.

The bandage can be removed when the patient is safely under medical observation. Observe for symptoms and signs of envenomation.

Envenomation Important early symptoms of snake bite envenomation include:

- · nausea and vomiting (a reliable early symptom)
- · abdominal pain
- · excessive perspiration
- · severe headache
- blurred vision
- · difficulty speaking or swallowing
- coagulation defects (e.g. haematuria)
- tender lymphadenopathy

Note: Do not give antivenom unless clinical signs of envenomation or biochemical signs (e.g. positive urine, or abnormal clotting profile).

Treatment of envenomation

- Set up a slow IV infusion of N saline.
- Have adrenaline on standby.

- Dilute the specific antivenom (I in IO in N saline) and infuse slowly over 30 mins via the tubing of the saline solution (may need 2 or more ampoules of antivenom).
- · Have adrenaline, oxygen and steroids on standby.
- · Monitor vital signs.
- Provide basic life support as necessary.

Note: A test dose of antivenom is not recommended.

Be careful of prophylactic adrenaline in some situations (e.g. avoid with brown snakes and with coagulopathy).

Spider bites

The toxin of most species of spider causes only localised pain, redness and swelling, but the toxin of some, notably the deadly Sydney funnel-web spider (*Atrax robustus*), can be rapidly fatal.

First aid

- · Sydney funnel-web: as for snake bites
- · Other spiders: apply an ice pack, do not bandage

Treatment of envenomation

- · Sydney funnel-web:
 - specific antivenom (need at least 4-6 vials)
 - resuscitation and other supportive measures
- · Red back spider:
 - antivenom IM (IV if severe)

Human bites and clenched fist injuries

Human bites, including clenched fist injuries, often become infected by organisms such as *Staphylococcus aureus*.

Principles of treatment

- Clean and debride the wound carefully (e.g. aqueous antiseptic solution or hydrogen peroxide).
- · Give prophylactic penicillin if a severe or deep bite.
- · Avoid suturing if possible.
- · Tetanus toxoid.
- Consider possibility of HIV, Hepatitis B or C infections.

For wound infection

- · Take swab.
- Procaine penicillin 1.5g IM, + amoxycillin/clavulanate 875mg (children: 15mg/kg up to 875mg) (o), bd for 5d.

For severe penetrating injuries (e.g. joints, tendons)

 Metronidazole 400mg (o) bd + cefotaxime or ceftriazone i g IV daily for 5-iod. Treat for i4 days if established infection.

Dog bites (non-rabid)

Animal bites are also prone to infection by the same organisms as for humans, plus *Pasteurella multocida*.

Principles of treatment

- Clean and debride the wound with aqueous antiseptic, allowing it to soak for IO-20mins.
- · Aim for open healing avoid suturing if possible.
- Apply non-adherent, absorbent dressings (paraffin gauze and Melolin) to absorb the discharge from the wound.
- · Tetanus prophylaxis: immunoglobulin or tetanus toxoid.
- Give prophylactic penicillin for a severe or deep bite: 1.5 mill. units
 of procaine penicillin IM statim, then oral penicillin or amoxycillin/
 clavulanate (dose as above) for 5-7d.
- · Inform the patient that slow healing and scarring are likely.

Cat bites

Cat bites have the most potential for suppurative infection. The same principles apply as for management of human or dog bites but use amoxycillin/clavulanate for 5d. It is important to clean a deep and penetrating wound. If infected use metronidazole + doxycycline. Another problem is catscratch disorder, presumably caused by a Gram-negative bacterium. Treat with roxithromycin for 10d if infected.

Bed bug bites

Now a common problem usu. in children & teenagers: the 'backpacker itch'.

Presents as a linear group of ≥ 3 bites commonly on neck, shoulders, arms, torso and legs corresponding to the superficial blood vessels. Appears as extremely itchy maculopapular red lesions \pm weals.

Treatment

- · Clean the lesions.
- Apply corticosteroid ointment qid *or* a simple antipruritic ointment.
- Call in a licensed pest controller.

Sandfly bites

Use soothing anti-itch cream or 5% lignocaine ointment if painful. For some reason, possibly the nature of body odour, the use of oral thiamine may prevent sandfly bites.

Dose: Thiamine 100mg orally, daily.

Mollusc bite (blue-ringed octopus, cone shell)

Mollusc venoms can be rapidly fatal because of prolonged muscular weakness leading to respiratory paralysis.

Treatment

- Apply compression bandage to bite site (usu. hand/arm).
- · Immobilise the limb.
- · Arrange transport (preferably by ambulance) to a medical facility.
- Observe (and manage) for respiratory paralysis. Ensure adequate ABC.

Stings

Bee stings

First aid

- Scrape sting off sideways with a fingernail or knife blade. Do not squeeze it with fingertips.
- Apply 20% aluminium sulphate solution (Stingose) or methylated spirits.
- · Apply ice to the site.
- Rest and elevate the limb that has been stung. If anaphylaxis, treat as appropriate.

Centipede and scorpion bites/stings

The main symptom is pain, which can be very severe and prolonged.

First aid

- · Apply local heat (e.g. hot water with ammonia/household bleach).
- · Clean site.
- Local anaesthetic (e.g. I-2mL 1% lignocaine) infiltrated around the site (if still painful).
- · Check tetanus immunisation status.

Box jellyfish or sea wasp (Chironex fleckeri)

Treatment

- The victim should be removed from the water to prevent drowning.
- Inactivate the tentacles by pouring vinegar over them for 30secs (do not use alcohol)—use up to 2L of vinegar at a time.
- · Check respiration and the pulse.
- Start immediate cardiopulmonary resuscitation (if nec.).
- · Gain IV access and use colloid; give oxygen and ionotropes.
- · Immobilisation for major stings.
- · Give box jellyfish antivenom by IM or IV injection.
- Provide pain relief if required (ice, lignocaine and analgesics).

Irukandji syndrome

Tiny jellyfish can cause this severe, potentially fatal delayed (~30mins) syndrome. Be prepared for CPR. No antivenom to date.

Stinging fish

The sharp spines of the stinging fish have venom glands that can produce severe pain if they spike or even graze the skin. The best known of these is the stonefish. The toxin is usu. heat sensitive.

Envenomation

- · intense pain
- · localised swelling
- · bluish discolouration

Treatment

- Bathe or immerse the affected part in very warm to hot water (not scalding)—may give instant relief.
- If pain persists, give a local injection/infiltration of lignocaine 1% or even a regional block. If still persisting, try pyroxidine 50mg intralesional injection.
- · A specific antivenom is available for the sting of the stonefish.

Other bites and stings

This includes bites from ants, wasps and some jellyfish.

First aid

- · Wash the site with large quantities of cool water.
- Apply vinegar (liberal amount) or Stingose to the wound for ~30secs.
- · Apply ice for several mins.
- Use soothing anti-itch cream or 5% lignocaine cream or ointment if very painful.

Medication is not usually necessary, although for a jellyfish sting the direct application of Antistine-Privine drops onto the sting (after washing the site) is effective.

Bladder dysfunction (in women during night)

Women with urethral syndrome constantly wake at night with the urge to micturate but produce only a small dribble of urine.

- Instruct patient to perform a pelvic lift exercise by balancing on upper back, lifting her pelvis with knees flexed and holding position for 30 secs.
- Squeeze pelvic floor inwards (as though holding back urine or faeces).
- · Repeat a few times.

Blepharitis

This is classified into three types:

- Seborrhoeic blepharitis
- Rosacea blepharitis
- · Staphylococcus blepharitis

Treatment

- Eyelid hygiene for seborrhoea—clean with a cotton bud dipped in 1:10 dilution of baby shampoo or sodium bicarbonate solution or clean warm water, once or twice daily
- Artificial tears (e.g. hypromellose 1%) for dry eyes
- Control scalp seborrhoea with medicated shampoos (e.g. ketaconazole)
- If chronic: short term use of hydrocortisone 0.5% ointment
- If facial rosacea: doxycycline 100mg (o) bd for 4–8wks
- If infected (e.g. S. aureus): tetracycline 1% or chloramphenicol 1% ointment to lid margins twice daily
- · If lid abscesses: di(flu)cloxacillin

Body odour

Body odour is caused by poor hygiene, excessive perspiration and active skin bacteria. Axilla and groin are the main focus.

Precautions Consider uraemia, vaginitis.

Treatment method

- Scrub body, esp. groins and axillae, with deodorant soap at least morning and night.
- · Try an antibacterial surgical scrub.
- · Keep clothes clean, regular laundry.
- Choose suitable clothes—natural fibres (e.g. cotton) not synthetics.
- · Use an antiperspirant deodorant.
- · Alternative soap—pine soap.
- Diet: avoid garlic, fish, curry, onions, asparagus.
- Reduce caffeine (coffee, tea and cola drinks), which stimulates sweat activity.
- · Consider a sugar-free diet.
- Shave axillary hair.
- Axillary wedge resection for excessive perspiration (see \(\Delta\) 388).

Boils (recurrent)

- Obtain swabs
- 3% hexachlorophane body wash daily

- · Mupirocin to the lesions and nares
- Antibiotics (according to swabs), e.g. difloxacillin 500mg (0) qid for 7d or erythromycin 500mg bd for 10d (may require up to 3 mths)

Breast lumps

Key facts and checkpoints

- The commonest lumps are those associated with benign mammary dysplasia (fibrocystic breast disease).
- Benign mammary dysplasia is also a common cause of cysts, esp. in the premenopausal phase.
- Over 75% of isolated breast lumps prove to be benign but clinical identification of a malignant tumour can only definitely be made following aspiration biopsy or histological examination of the tumour.
- Breast cancer is the most common cancer in females (after skin cancer), affecting 1 in 12–15 women.
- About 25% of all new cancers in women are breast neoplasms.
- A 'dominant' breast lump in an older woman should be regarded as malignant.

Causes of a breast lump

- mammary dysplasia 32%
- fibroadenoma 23%
- · carcinoma 22%
- cyst 10%

The clinical approach

Breast symptoms (esp. cancer)

- lump
- tenderness or pain
- · nipple discharge
- breast asymmetry/dimpling
- nipple changes
- periareolar inflammation—usu. due to nipple retraction or mammary duct ectasia
- Paget's disease of nipple = underlying malignancy

Nipple discharge This may be intermittent from one or both nipples. It can be induced by quadrant compression.

- bloodstained
 - intraduct papilloma (commonest)
 - intraduct carcinoma
 - mammary dysplasia

- · green-grey
 - mammary dysplasia
 - mammary duct ectasia
- · yellow
 - mammary dysplasia (serous)
 - breast abscess (pus)
- · milky white (galactorrhoea)
 - lactation cysts
 - lactation
 - hyperprolactinaemia
 - drugs (e.g. chlorpromazine)

Diagnosis—the triple test

- I clinical examination
- 2 fine needle aspiration \pm core biopsy
- 3 imaging: <35 yrs—US; >35 yrs—US ± mammogram

Investigations

X-ray mammography Mammography can be used as a screening procedure and as a diagnostic procedure. It is currently the only effective screening tool for breast cancer. Screening:

- · established benefit for women over 50
- · possible benefit for women in their 40s
- follow-up in those with breast cancer, as 6% develop in the opposite breast
- · localisation of the lesion for fine needle aspiration

Breast ultrasound This is mainly used to elucidate an area of breast density and is the best method of defining benign breast disease, esp. with cystic changes. It is generally most useful in women less than 30 yo.

Needle aspiration techniques

- · cyst aspiration
- fine needle aspiration or core needle biopsy: very useful diagnostic test in solid lumps with an accuracy of 90–95% (better than mammography)

Carcinoma of the breast

Breast carcinoma is uncommon <3 oyrs but steadily increases to a max. at ~6 oyrs. About ½ of women are premenopausal and ½ postmenopausal.

Clinical features

- Painless lump (10% associated pain)
- Hard and irregular lump
- Other symptoms include breast pain, nipple discharge (bloody or serous), nipple retraction or distortion, skin dimpling and skin oedema (peau d'orange).

- Rarely cancer can present with Paget's sign (red scaly rash around nipple).
- Rarely it can present with bony secondaries (e.g. back pain, dyspnoea, weight loss, headache).

Management Immediate referral to an expert surgeon on suspicion or proof of breast cancer is essential. Any doubtful breast lump should be removed.

Mammary dysplasia

Synonyms: fibroadenosis, chronic mastitis, fibrocystic disease, cystic hyperplasia. Most common in women between 30 and 50 years.

Management

- Consider mammography if diffuse lumpiness is present in patient >40.
- Perform needle biopsy if discrete lump is present and aspirate palpable cysts.
- · Reassure patient that there is no cancer.
- · Give medication to alleviate any mastalgia.
- · Use analgesics as nec.
- · Surgically remove undiagnosed mass lesions.

Breast cyst

A discrete mass that is firm and relatively mobile, rarely fluctuant.

Diagnosis

- mammography
- · US (X-ray of choice)
- · cytology of aspirate

Lactation cysts (galactoceles)

- These milk-containing cysts arise during pregnancy and present postpartum with similar signs to perimenopausal cysts.
- They vary from 1-5cm in diameter.
- · Treat by aspiration: fluid may be clear or milky.
- Consider possibility of malignancy.

Fibroadenoma

Clinical features

- · A discrete asymptomatic lump
- Usu. in 20s (range: 2nd-6th decade)
- Firm, smooth and mobile (the 'breast mouse')
- Usu, rounded
- Usu. in upper outer quadrant

Management US and fine needle aspiration with cytology is recommended. It may be left in those in the late teens but as a rule the lump should be removed to be certain of the diagnosis.

Fat necrosis

Usu. the end result of a large bruise or trauma which may be subtle, such as protracted breastfeeding. The mass that results is often accompanied by skin or nipple retraction and thus closely resembles carcinoma.

Mammary duct ectasia

Synonyms: plasma cell mastitis, periductal mastitis.

In this benign condition a whole breast quadrant may be indurated and tender. The lump is usu. located near the margin of the areola and is a firm or hard, tender, poorly defined swelling. There may be a toothpaste-like nipple discharge.

Phyllodes tumour

Giant fibroadenoma-like tumour, usu. benign, but 25% are malignant.

Breast pain (mastalgia)

Key facts and checkpoints

- Typical age span for mastalgia is 30–50yrs.
- Peak incidence is 35-45yrs.
- There are four common clinical presentations:
 - I diffuse, bilateral cyclical mastalgia (commonest)
 - 2 diffuse, bilateral non-cyclical mastalgia
 - 3 unilateral diffuse non-cyclical mastalgia
 - 4 localised breast pain

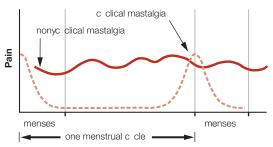


Figure 26 Pain patterns for cyclical and non-cyclical mastalgia

Cyclical mastalgia

Features

- Typical age is ~35
- · Discomfort and sometimes pain are present
- · Usu. bilateral but one breast can dominate
- · Mainly premenstrual; associated PMT
- Breasts diffusely nodular or lumpy
- · Variable relationship to the pill

• Rare after the menopause.

Management After excluding a diagnosis of carcinoma and aspirating palpable cysts, various treatments are possible and can be given according to severity (see Table 15 overleaf). Regular follow-up screening is advisable.

Table 18 Management plan for cyclical mastalgia (stepwise trial)

	Progressive stepwise therapy
Step 1	Reassurance Proper brassiere support Diet—exclude or minimise caffeine; weight reduction Analgesics
Step 2	Add Vitamin B, 100mg daily Vitamin B ₆ 100mg daily
Step 3	Substitute Evening primrose oil 4mg/d
Step 4	Add Danazol 200mg/d or norethisterone 5mg/d

Non-cyclical mastalgia

Management Non-cyclical mastalgia is very difficult to treat, being less responsive than cyclical mastalgia. It is worth a therapeutic trial.

First-line treatment

- Exclude caffeine from diet
- · Weight reduction if needed
- Vitamin B, 100mg daily
- Vitamin B₆ 100mg daily

Second-line treatment

· Norethisterone 5mg/d

Costochondritis (Tietze's syndrome)

Features

- Palpable swelling ~4 cm from sternal edge due to enlargement of costochondral cartilage
- · Aggravated by deep breathing and coughing
- · Self-limiting, but may take several mths to subside

Treatment

· Infiltration with LA and corticosteroid (with care).

Mastitis

Clinical features

- a lump and then soreness (at first)
- · a red tender area
- · (possibly) fever, tiredness, muscle aches and pains

Treatment (systemic symptoms)

- Antibiotics: resolution without progression to an abscess will usu. be prevented by antibiotics di(flu)cloxacillin 500mg (o) qid for IOd (IV if severe) or cephalaxin 500mg (o) qid for IOd
- Therapeutic US (2 W/cm² for 6mins) daily for 2-3d
- · Aspirin or paracetamol for pain

Instructions to patients

- · Keep the affected breast well drained.
- · Continue breastfeeding: do frequently and start with the sore side.
- Heat the sore breast before feeding (e.g. with hot shower or hot face washer).
- Cool the breast after feeding: use a cold face washer from the freezer.
- Empty the breast well: hand express if nec.

Inflammatory breast cancer (mastitis carcinomatosa)

This rare condition develops quickly with florid redness, swelling, dimpling and breast heaviness. Not as painful as it appears—confused with mastitis but unresponsive to antibiotics. Refer immediately.

Breast abscess

If tenderness and redness persist beyond 48h and an area of tense induration develops, then a breast abscess has formed. It requires surgical drainage under general anaesthesia or preferably aspiration with a large bore needle under LA every second day until resolution, antibiotics (e.g. dicloxacillin 500mg (o) qid for 10 days), rest and complete emptying of the breast. Continue breastfeeding from the affected side or express milk if this is not possible.

Breath-holding attacks

This is a dramatic emergency. There are two types: one related to a tantrum (description follows) and the other a simple faint. They can manifest as 'blue attacks' (breath holding with closed glottic) or 'white attacks' known as reflex anoxic seizures, usu. with pain.

Clinical features

- Age group—usu. 6mths to 6yrs (peak 2–3yrs)
- · Precipitating event (minor emotional or physical)
- Children emit a long loud cry, then hold their breath
- · They become pale and then blue
- · If severe, may result in unconsciousness or even a brief tonic-clonic fit
- Lasts 10–60secs

Management

- · Place child in coma position.
- Reassure the parents that attacks are self-limiting, not harmful and are not associated with epilepsy or mental retardation (usu. resolve by 3yrs).
- Advise parents to maintain discipline and to resist spoiling the child.
- Try to avoid incidents known to frustrate the child or to precipitate a tantrum: try distraction techniques.
- Inform parents that gently flicking cold water in child's face may abort the attack.

Bronchiolitis

- · An acute viral illness due to RSV
- · The most common acute LRTI in infants
- Usual age 2wks to 9mths (up to 12mths)
- · Coryza then irritating cough
- Wheezy breathing often distressed
- Tachypnoea
- · Hyperinflated (barrel-shaped) chest

Auscultation:

- Widespread fine inspiratory crackles (not with asthma)
- Frequent expiratory wheezes

X-ray: hyperinflation of lungs with depression of diaphragm Virus identified by PCR on nasopharyngeal aspirate. Rapid RSV viral test

now available. Management

Admission to hospital is usual, esp. with increasing respiratory distress (rate >50) reflected by difficulty in feeding.

- · Minimal handling/good nursing care
- Observe colour, pulse, respiration, O₂ saturation (pulse oximetry)

- O₂: to maintain P₂O₂ >90% (pref. 93%)
- · Fluids IV or by nasogastric tube if unable to feed orally
- · Antibiotics not indicated except if secondary bacterial infection

Bronchitis

Acute bronchitis

- · Cough and sputum (main symptoms)
- · Wheeze and dyspnoea
- · Usu, viral infection
- Can complicate chronic bronchitis usu. due to Haemophilus influenzae and Streptococcus pneumoniae
- Scattered wheezes on auscultation ± fever or haemoptysis (uncommon)

Outcome Improves spontaneously in 4–8d in healthy patients.

Treatment

- · Symptomatic treatment
- · Inhaled bronchodilators for airflow limitation
- · Antibiotics usu. not needed
- Use antibiotics if evidence of acute bacterial infection with fever (e.g. amoxycillin 500mg tds for 5d; use doxycycline 200mg stat, then 100mg/d for 5d if mycoplasma suspected)

Chronic bronchitis

Definition: chronic productive cough for at least 3 successive mths in 2 successive years:

- · Wheeze, progressive dyspnoea
- · Recurrent exacerbations with acute bronchitis
- · Occurs mainly in smokers

COPD (136)

Bruising and bleeding

Many patients present with the complaint that they bruise easily but only a minority turn out to have an underlying blood disorder.

Key facts and checkpoints

- Purpura = petechiae ± ecchymoses.
- Abnormal bleeding is basically the result of disorders of (1) the platelet,
 (2) the coagulation mechanism, or (3) the blood vessel.
- There is no substitute for a good history in the assessment of patients with bleeding disorders.
- An assessment of the personal and family histories is the first step in the identification of a bleeding disorder.

- When a patient complains of 'bruising easily' it is important to exclude thrombocytopenia due to bone marrow disease and clotting factor deficiencies such as haemophilia.
- Differential diagnosis: 'Palpable purpura' due to an underlying systemic vasculitis is an important differential problem. The petechiae are raised so finger palpation is important. The cause is an underlying vasculitis affecting small vessels (e.g. polyarteritis nodosa).
- In general, bleeding secondary to platelet defects is spontaneous, associated with a petechial rash and occurs immediately after trauma or a cut wound.
- · Laboratory assessment should be guided by the clinical impression.
- Bleeding caused by coagulation factor deficiency is usu. traumatic and delayed (e.g. haemorrhage occurring 24h after a dental extraction in a haemophiliac).
- The routine screening tests for the investigation of patients with bleeding disorders can be normal despite the presence of a severe haemorrhagic state.

Investigations The initial choice of investigations depends upon the bleeding pattern.

If coagulation defect suspected:

- prothrombin time (PT), i.e. INR
- activated partial thromboplastin time (APTT)
- · fibrinogen level
- thrombin time (TT)

If platelet pathology suspected:

- platelet count
- platelet function analyser (PFA-100)

If inherited disorders suspected:

- · factor VIII (haemophilia A)
- · von Willebrand factor activity
- von Willebrand factor antigen

The FBE and blood film is useful in pinpointing the aetiology. Other special tests such as von Willebrand screen and PFA-100 can be advised by the consultant. The bone marrow examination is useful to exclude the secondary causes of thrombocytopenia, such as leukaemia, other marrow infiltrations and aplastic anaemia.

Vascular disorders

Features

- · easy bruising and bleeding into skin
- ± mucous membrane bleeding
- investigations normal

Simple purpura (easy bruising syndrome)

This is a benign disorder occurring in otherwise healthy women usu. in their twenties or thirties. The feature is bruising on the arms, leg and trunk with minor trauma. The patient may complain of heavy periods. Major challenges to the haemostatic mechanism such as dental extraction, childbirth and surgery have not been complicated by excessive blood loss.

Henoch-Schonlein (anaphylactoid) purpura

This is a palpable purpura due to small vessel vasculitis.

Clinical features

- · All ages, mainly in children
- · Usu. follows URTI inc. strep throat
- · Rash mainly on buttocks and legs
- · Can occur on hands, arms and trunk
- · Arthritis: mainly ankles and knees
- · Colicky abdominal pain (vasculitis of GIT)
- Haematuria (reflects nephritis and requires follow-up kidney function) Prognosis is generally excellent. No specific therapy is available but corticosteroids may be helpful for abdominal pain.

Platelet disorders

Features

- petechiae ± ecchymoses
- · bleeding from mucous membranes
- platelet counts <50 000/mm 3 (50 × 10 9 /L), N: 150–400 × 10 9 /L

Immune thrombocytopenic purpura (ITP) Two different types caused by immune destruction of platelets:

- · acute ITP of children, often postviral
- chronic (adult type) ITP: autoimmune disorder; requires referral as may require steroids, even splenectomy

Coagulation disorders

Features

- ecchymoses
- · haemarthrosis and muscle haematomas
- · usu. traumatic and delayed

Von Willebrand's disease is the most common haemostatic disorder—1% pop. There is easy bruising, menorrhagia (♀) and ↑ bleeding with incisions, dental work and mucosal trauma. There is no specific treatment, but various preparations such as recombinant factor concentrates can be used. The inherited disorders such as haemophilia A and B are uncommon and involve deficiency of one factor only. The acquired disorders such as

disseminated intravascular coagulation (DIC) occur more commonly and invariably affect several anticoagulation factors.

Bruxism (teeth grinding)

- Encourage patient to recognise and understand problem and work at overcoming it.
- · Practise keeping teeth apart.
- · Slowly munch an apple before retiring.
- Practise relaxation techniques, inc. meditation, before retiring (bruxism is related to stress).
- Place a hot face towel against the sides of the face before retiring to achieve relaxation.
- If this fails and bruxism is socially unacceptable during the night, use a mouthguard.

Burning feet syndrome

Anterior burning pain in forefoot—consider tarsal tunnel syndrome (usu. in menopausal women and worse at night), peripheral neuropathy (e.g. from diabetes), vascular insufficiency, Morton's neuroma or psychogenic causes.

Burns

Management depends on extent and depth (burns are classified as superficial or deep). Always consider pain relief.

Small burns should be immersed in cold water immediately (e.g. tap water) for 20 mins.

Chemical burns should be liberally irrigated with water. Apply 1 in 10 diluted vinegar to alkali burns and sodium bicarbonate solution to acid burns.

Refer the following burns to hospital:

- >10% surface area, esp. in a child
- · all deep burns
- burns of difficult or vital areas (e.g. face, hands, perineum/genitalia, feet)
- burns with potential problems (e.g. electrical, chemical, circumferential) Replacement fluids essential for severe burns (e.g. IV Hartmann's solution 2–4mL/kg/%burn in first 24h).

Treatment of superficial burns Most scalds cause partial thickness (superficial) burns. If skin intact leave and apply mild antiseptic, e.g. use a fine mist water spray such as aqueous chlorhexidine. If blistering, apply hydrocolloid sheets or Fixomull, covered by an absorbent dressing. Then cleanse serous ooze from the adhesive material once or twice daily.

Exposure (open method)

- Keep open without dressings (good for face, perineum or single surface buns)
- · Renew coating of antiseptic cream every 24h

Dressings (closed method)

- · Suitable for circumferential wounds
- · Cover area with non-adherent tulle (e.g. paraffin gauze)
- Dress with an absorbent bulky layer of gauze and wool
- · Use a plaster splint if nec.

Burns to hands

A first-aid method for superficial blistered burns to hands is to apply strips of retention adhesive dressings as described above. They conform well to digits.

Then apply a crepe bandage around the hand, leaving the fingers and thumb free so that the fingers can move freely in the bag. Consider placing the arm in a sling. At 7 days, soak the dressings in oil for 2h before coming into the clinic for change of dressing.

| C |

Cancer

Cancer (malignancy) accounts for I in 8 deaths of people <35yrs and I in every 4 of those >45yrs. The six most common causes of death from cancer in Australia and the USA are cancer of the lung, bowel, breast, prostate, lymphoma and pancreas. Neoplasia, esp. malignancy of the silent areas (ovary, kidney, caecum and ascending colon, liver and haematological tissue) can present as undifferentiated illness and be a real 'masquerade'.

The clinical manifestations of malignancy are due to:

- · pressure effect of the growth (e.g. abdominal pain)
- · infiltration or metastases in various organs
- · systemic symptoms
 - tiredness, malaise, weakness
 - anorexia and nausea
 - weight loss
- · paraneoplastic effects, e.g.
 - hypercalcaemia (causes thirst)
 - hyponatraemia (causes drowsiness)
 - fever and sweats
 - ectopic hormone production
 - haematological disorders (e.g. coagulopathy)
 - neuropathies

Red flag pointers for cancer

- constitutional (systemic) symptoms: tiredness, malaise, weakness, anorexia, nausea
- · fever, night sweats
- · unexplained weight loss
- age > 50
- · past history of malignancy
- · unresolved pain
- unusual lumps or swellings
- family history, e.g. breast, ovary, stomach
- · unresponsive to treatment

Diagnostic triads for specific cancers

(In addition to constitutional symptoms, e.g. malaise, tiredness.)

Bladder: haematuria + frequency + dysuria Diagnosis: urine cytology × 3, cytoscopy Breast: lump + nipple changes (discharge, distortion) Diagnosis: fna/biopsy, excision biopsy, imaging

Cerebral: seizure + cognitive impairment ± headache

Diagnosis: CT scan/MRI

Cervix: post-coital bleeding, intermenstrual bleeding, vaginal discharge Diagnosis: Pap smear, biopsy

Colorectal: blood in stool + change in bowel habit ± abdominal discomfort Diagnosis: colonoscopy, FOBT

Kidney: haematuria (60%) + loin pain (40%) ± palpable kidney mass Diagnosis: urine cytology × 3, ultrasound or CT/MRI

Lung: persistent cough + weight loss ± haemoptysis Diagnosis: CXR, CT scan, PET scan, bronchoscopy

Oesophagus: dysphagia + chest discomfort + weight loss ± hiccoughs Diagnosis: barium swallow, endoscopy

Ovary: abdominal discomfort, distension or bloating \pm bowel changes \pm menstrual dysfunction

Diagnosis: pelvic ultrasound, serum CA-125

Pancreas: abdominal discomfort (75%) + jaundice + epigastric/back pain (esp. body of P). If head of P may → painless jaundice + enlarged gall bladder.

Diagnosis: CT or MRI (MRCP), CA 19-9

Prostate: BOO (70%) + back pain (15%) + haematuria 5%. Diagnosis: DRE, core biopsy (transrectal US), PSA

Stomach: anorexia + dyspepsia + weight loss Diagnosis: gastroscopy + biopsy

Leukaemia: Acute (ALL, AML): pallor + bone pain + bleeding tendency + gingival hypertrophy (AML)

Chronic myeloid L: fever/night sweats + abdominal fullness (splenomegaly) + symptoms of anaemia

Chronic lymphocytic L: fever/night sweats + weight loss + lymphadenopathy

Diagnosis: FBE/film, bone marrow biopsy, CXR, CT scan, lymph node biopsy

Lymphoma Hodgkin: fever/night sweats + pruritus + cervical lymphadenopathy

Non-Hodgkin: fever/night sweats + lymphadenopathy Diagnosis: lymph node excision biopsy, FBE/film, CXR

Multiple myeloma: weakness + unexplained back pain + susceptibility to infection

Diagnosis: FBE/film, urine Bence-Jones protein, serum paraprotein, skeletal survey

Metastatic tumours

The big three metastasising primaries are lung, colon and breast. Common target sites are lymph nodes, liver, lung, mediastinum and bone. Important sites followed by likely primary sources are:

- · Liver: colon, pancreas, stomach, breast, lung, melanoma
- Lung and mediastinum: breast, colon, kidney, testes, cervix/uterus, lymphoma, melanoma
- Bone: breast, prostate, lung, kidney, thyroid, melanoma, Hodgkin lymphoma
- · Brain: breast, lung, colon, lymphoma, kidney, melanoma, prostate

Cannabis (marijuana)

The effects of smoking cannabis vary from person to person. The effects of a small to moderate amount (after 20–180mins) include:

- feeling of well-being and relaxation
- · decreased inhibitions
- · woozy, floating feeling
- · lethargy and sleepiness
- · talkativeness and laughing a lot
- red nose, gritty eyes and dry mouth
- unusual perception of sounds and colour
- · nausea and dizziness
- loss of concentration
- looking 'spaced out' or drunk
- · lack of coordination

Long-term use and dependence The influence of 'pot' has a severe effect on the personality and drive of the user. They lose their energy, initiative and enterprise. They become bored, inert, apathetic and careless. A serious effect of smoking pot is loss of memory. Some serious problems include:

- anxiety
- · respiratory disease (more potent than nicotine)
- · often prelude to taking hard drugs
- becoming psychotic (resembling schizophrenia): the drug appears to unmask an underlying psychosis
- · paranoia, esp. with a new form called 'mad weed'

Withdrawal Sudden withdrawal produces insomnia, nausea, depression, night sweats, myalgia, irritability, maybe anger and aggression. Treat with supportive therapy and diazepam if problematic.

Management CBT may be effective in treatment of dependence. The best treatment is prevention. People should either not use it or limit it to experimentation. If it is used, people should be prepared to 'sleep it off' and not drive.

Cardiopulmonary resuscitation (CPR)

The ABC basic life support for cardiac arrest can be followed, but ideally DRABCD should be followed: assess Dangers, assess Response, open Airway, Breaths, Chest compression and Defibrillation (if available and required).

Basic life support The following represents a logical plan for the adult patient who collapses or is found apparently unconscious.

- I Shake and shout at the patient.
- 2 Check breathing.
- 3 Finger sweep oropharynx (clear it).
- 4 Check pulse (feel carotid adjacent to thyroid cartilage).
- 5 Call for help (if no pulse).
- 6 Place victim on back on firm surface.
- 7 Thump precordium (if arrest witnessed).
- 8 Tilt head back (to maximum).
- 9 Lift chin (use airway if available).

Basic life support:

- rescue breaths—2 deep breaths
- external chest compression (no pause)—30 compressions
- continue alternating 30 compressions (rate 100/min) with 2 strong breaths.

Note: The ratio of 30:2 with 1 or 2 rescuers is now favoured but check ILCORE guidelines (www.ilcor.org).

Advanced life support Optimal initial support involves:

- endotracheal intubation (otherwise bag and oxygen)
- · ECG monitoring
- intravenous access (large peripheral or central vein)
- · continuing chest compression

Optimal initial therapy involves:

- · defibrillation
- oxygen
- cardioactive drugs, esp. adrenaline

Give a single shock instead of stacked shocks for VF (pulseless VT).

Where the arrest is witnessed by a health professional and a manual defibrillator is available, then up to 3 shocks may be given (stacked shock strategy) at the first defibrillation attempt.

After each defibrillation attempt, give 2mins of CPR before checking rhythm and pulse.

'Cellulite'

The best way to overcome 'cellulite' is to keep to ideal weight. If overweight, lose it slowly and exercise to improve the muscle tone in the buttocks and thighs.

Cellulitis

A spreading infection of the skin involving subcutaneous fat (compare with erysipelas (\(\theta\) 226), which involves upper dermis). Mainly caused by GABHS and S. aureus. Commonly affects legs of elderly (\(\theta\) 329). A special mutant variety is 'flesh-eating' GABHS, which causes localised destruction of tissue.

Treatment Penicillin for GABS and di(flu)cloxacillin for S. aureus. Attend to underlying cause (e.g. skin ulcer).

Central nervous system infections (incl. meningitis, encephalitis, abcess)

Key symptoms: headache, seizures, altered conscious state

Meningitis: classic traid—headache, photophobia, neck stiffness Others: malaise, vomiting, fever, drowsiness

Bacterial causes: *Strep. pneumoniae, H. influenza* (esp. children), *Neisseria meningitides* (can take form of meningitis, septicaemia (meningococcaemia) or both).

Also—Listeria monocytogenes, M. tuberculosis, Group B Strep, Strep. agalactiae (esp. newborn), Staph spp, Gm-ve bacilli, Treponema pallidum.

Viral causes: enteroviruses (Coxsackie, echovirus, poliovirus), mumps, HSV type 1, 2 or 6, Varicella zoster, EBV, HIV

Fungi: cryptococcus, Histoplasma capsilatum

Bacterial meningitis

Basically a childhood infection (↑ risk 6–12 mths).

Infancy (clinical features)

- Fever, pallor, vomiting ± altered conscious state
- Lethargy
- · Increasing irritability with drowsiness
- Refusal to feed, indifference to mother
- Neck stiffness (not always present)

 Cold potentials (a policial action)
- Cold extremities (a reliable sign)May be bulging fontanelle

Children over 3 years, adolescents, adults

- Meningeal irritation more obvious (e.g. headache, fever, vomiting, neck stiffness)
- Later: delirium, altered conscious state
- ± Kernig's sign (Fig. 27)

Note: Antibiotics may mask symptoms. Suspect meningitis if fever >3 days in reasonably well child on antibiotics.

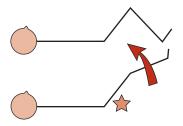


Figure 27 Kernig sign: pain in hamstrings on passive knee extension with hip flexed at 90°

Fulminating

- Dramatic sudden-onset shock, purpura (does not blanch on pressure)
 ± coma
- Usually due to meningococcal septicaemia, also H. influenza type B, Streptococcus pneumoniae

Note: Septic shock may ensue without signs of meningitis.

Treatment (suspected meningitis)

First: oxygen + IV access

- · Take blood for culture (within 30 minutes of assessment)
- For child give bolus of 10-20 mL/kg of N saline
- Admit to hospital for lumbar puncture (preliminary CT scan to assess safety of LP in adults)
- Dexamethasone o.15 mg/kg up to 10 mg IV
- Ceftriaxone 4g (child: 100 mg/kg up to 4g) IV statim then daily for 3-5 days

cefotaxime 2 g (child: 50 mg/kg up to 2 g) IV 6 hourly for 3–5 days

Treatment (meningococcaemia—all ages)

Treatment is extremely urgent once suspected (e.g. petechial or purpuric rash on trunk and limbs). It should be given before reaching hospital.

- Benzylpenicillin 60 mg/kg IV (max. 2 g) statim (continue for 5 days)
- if IV access not possible give IM
- Ceftriaxone 100 mg/kg IV or IM (max 4 g) statim then daily for 5 days A simple plan with benzylpenicillin
- infants <1 yr: 300 mg IV or IM
- 1–9 yrs: 600 mg
- >10 yrs: 1200 mg

Prevention

• Conjugated group C meningococcal vaccine

Viral meningitis

- Can mimic bacterial meningitis but milder and most cases self-limiting
- Common causes: HHV 6 (cause of roseola infantum), enteroviruses, mumps
- Lumbar puncture for diagnosis
- · Treatment is symptomatic—analgesics, rehydration, etc.

Encephalitis

Encephalitis is inflammation of the brain parenchyma. It is mainly caused by viruses although other organisms including some bacteria, *Mycoplasma*, *Rickettsia* and *Histoplasma* can cause encephalitis. Suspect it when a viral prodrome is followed by irrational behaviour, altered conscious state and possibly cranial nerve lesions.

Clinical features

These can vary from mild to severe.

- · Constitutional: fever (not inevitable), malaise, myalgia
- · Meningeal features: headache, photophobia, neck stiffness
- Cerebral dysfunction: altered consciousness—confusion, drowsiness, personality changes, seizures
- · Focal neurological deficit

Causes (viral organisms)

- Herpes simplex type I or 2, enteroviruses, mumps, CMV, EBV, HIV, measles, influenza, rabies, arboviruses, e.g. Japanese B, West Nile, Murray Valley encephalitis, Ross River
- · Consider cerebral malaria in the differential diagnosis

Investigations

- Lumbar puncture: CSF (usually aseptic meningitis)
- CSF PCR for viral studies, esp. HSV
- CT scan—often shows cerebral oedema
- · Gadolinium enhanced MRI
- · EEG-characteristic waves

Treatment

Organise hospitalisation where treatment will be supportive. Suspected herpes simplex encephalitis should be treated with IV aciclovir immediately.

Brain abscess

A space occupying intracerebral lesion of focal infection from local spread or bloodstream. Usually polymicrobial organisms.

Clinical features

Raised intracranial pressure

- Headache
- · Nausea and vomiting

- · Altered conscious state
- · Papilloedema

Other

- Focal neurological signs such as hemiplegia, dysphasia, ataxia
- Seizures (30%)
- · Fever
- · Signs of sepsis elsewhere: e.g. teeth, endocarditis

Investigations

- · MRI (if available) or CT scan
- · FBE, ESR/CRP, blood culture

Note: Lumbar puncture is contraindicated.

· Consider endocarditis

Management is urgent neurosurgical referral.

Spinal subdural or epidural abscess

Usually due to Staph. aureus, difficult to diagnose.

Clinical features

- Back pain (increasing) ± radiculopathy
- · Percussion tenderness over spine
- Evolving neurological deficit, e.g. gradual leg weakness and sensory loss ± fever (may be absent)

Causes

- Associated infection: furuncle, decubitus ulcer, adjacent osteomyelitis, discitis, other
- · Back trauma with haematoma
- · Post-subdural or epidural anaesthetic block
- · One-third is spontaneous

Investigations

- Blood culture
- · MRI scan

Management is urgent neurosurgical referral.

Prion transmitted diseases

The feature is transmissible spongiform encephalopathy e.g. Creutzfeldt–Jakob disease, Kuru, fatal familial insomnia. CJD may be sporadic, familial or iatrogenic.

Clinical features

- Progressive dementia (starts with personality change and memory loss—eventual loss of speech)
- Myoclonus
- · Fatigue and somnolence
- · Variable neurological features (e.g. ataxia, chorea)

Diagnosis

- · MRI: high signal intensity in thalami
- CSF: positive 14-3-3 protein immunoassay
- EEG

Management

· Supportive: no proven specific treatment

Poliomyelitis

Caused by a specific spinal cord anterior horn cell enterovirus (picornovirus). Most infections are asymptomatic or have flu-like symptoms. The paralytic stage is an LMN lesion (flaccid paralysis) which may include spinal polio affecting lower limbs and/or bulbar polio \pm respiratory failure. No sensory loss. Refer symptomatic paralytic patients to hospital.

Other infections involving CNS

- syphilis
- · tuberculosis
- HIV
- · helminths (worms) e.g. hydatid, tapeworms
- · Clostridia infections e.g. tetanus, botulism
- rabies
- · Hansen disease (leprosy)

Cervical cancer and Pap smears

Facts and figures

- Carcinoma of the cervix is the most common malignancy in women worldwide
- Two small peaks of incidence: late 30s and late 60s.
- On average, cervical cancer takes at least a decade to develop from a focus of a cervical squamous intraepithelial lesion.
- SCC of the cervix occurs almost exclusively in women who have had coitus but can occur in the abscence of penetrative sex.
- The earlier the age of first intercourse the greater the chance of developing cervical cancer.
- · Human papilloma virus (HPV) is an important cause.
- Invasive cervical cancer is a disease for which definite curable premalignant lesions can be identified using a Papanicolaou (Pap) smear as a screening test.
- The incidence of cervical cancer has decreased significantly through the screening procedures of the Pap smear, colposcopy and colposcopically directed cervical biopsy.
- · Poor Pap smear technique is a common cause of a false negative result.

Prevention: Human papilloma vaccine—course of 3 injections, recommended for all females from 9–26 years.

Clinical presentation Many patients with cervical cancer are asymptomatic and when early symptoms do arise they are often dismissed as of little consequence.

Symptoms, if present, may be:

- · vaginal bleeding, esp. postcoital bleeding, intermenstrual
- · vaginal discharge
- symptoms of advanced disease (e.g. vaginal urine or flatus, weakness)

Screening recommendations Routine Pap smears:

- Perform every 2yrs for women with no clinical evidence of cervical pathology (some authorities recommend annual smears).
- Perform from beginning of sexual activity up to 70yrs.
- Begin Pap smears at 18–20yrs or 1–2yrs after first sexual intercourse (whichever is later).
- Cease at 70yrs in those who have had two normal Pap smears within the last 5yrs.
- · Lesbian women require regular Pap testing.
- · HPV can be transmitted in any genital skin-to-skin contact.

Taking a Pap smear

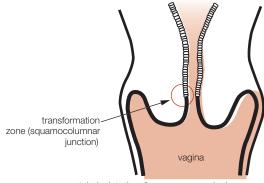
The importance of a good specimen The optimal Pap smear contains:

- sufficient mature and metaplastic squamous cells to indicate adequate sampling from the whole of the transformation zone
- sufficient endocervical cells to indicate that the upper limit of the transformation zone was sampled; and to provide a sample for screening of adenocarcinoma and its precursors

Optimal timing of specimens The best time is any time after the cessation of the period.

Precautions (no-no's) before taking smear:

- · no menstruation
- · no vaginal infection
- · no intercourse for 24h
- no douches for 24h
- no vaginal creams for 48 h
- no lubrication or cleaning of cervix with PV Findings:
- Low grade squamous intraepithelial lesion:
 ≥3oyrs (no -ve cytology in past 2-3yrs)—immediate colposcopy or
 repeat in 6mths
 other ♀: repeat Pap test in 12mths
- · High grade squamous epithelial lesion: refer for colposcopy
- · Invasive SCC or adenocarcinoma: refer to specialist



use spatula (pointed end) or cervex sampler broom or Cervex Brush Combi + endocervical brush (essential)

Figure 28 The transformation zone in menopausal women: it is vital that Pap smears take cells from this zone. Use blunt end of spatula for

Chest pain

reproductive age

Checkpoints and golden rules

- Chest pain represents an acute coronary syndrome until proved otherwise.
- Immediate life-threatening causes of spontaneous chest pain are (I) myocardial infarction, (2) pulmonary embolism, (3) aortic dissection, (4) tension pneumothorax.
- The main differential diagnoses of myocardial infarction include angina, aortic dissection, pericarditis, oesophageal reflux and spasm and hyperventilation with anxiety.
- The history remains the most important clinical factor in the diagnosis of ischaemic heart disease. With angina a vital clue is the reproducibility of the symptom.

Site, radiation and features of chest pain syndromes

Acute coronary syndromes (ACS)

The typical retrosternal distribution is shown in Figure 29. Retrosternal pain or pain situated across the chest anteriorly should be regarded as cardiac until proven otherwise.

The wide variation of sites of pain (e.g. jaw, neck, inside of arms, epigastrium and interscapular) should always be kept in mind. Pain is referred into the left arm 20 times more commonly than into the right arm.

The quality of the pain is usually typical. The patient often uses the clenched fist sign to illustrate a sense of constriction.

The main types of ACS are:

- ST elevated myocardial infarction (STEMI)
- · non-ST elevated acute coronary syndromes:
 - unstable angina
 - myocardial infarction (myonecrosis)

Angina is described on 29, myocardial infarction on 342.

Table 19 Chest pain: diagnostic strategy model

	07			
Q. Probability diagnosis A. Musculoskeletal (chest wall) Psychogenic Angina	Gastro-oesophageal reflex Herpes zoster Fractured rib (e.g. cough fracture) Spinal dysfunction			
Q. Serious disorders not to be	Rarities			
missed	Bornholm disorder			
A. Vascular	(pleurodynia)			
acute coronary syndrome	cocaine inhalation			
aortic dissection	hypertrophic cardiomyopathy			
pulmonary embolism	Q. Seven masquerades checklist			
Infection	A. Depression ✓ possible			
	•			
pneumonia/pleuritis	Diabetes –			
mediastinitis	Drugs –			
 pericarditis 	Anaemia 🗸 indirect			
Neoplasia	Thyroid disorder —			
 carcinoma lung 	Spinal dysfunction 🗸			
 tumours of spinal cord and 	UTI –			
meningitis Q. Is this patient trying to tell				
Pneumothorax	something?			
Q. Pitfalls (often missed) A. Consider functional causes, esp.				
A. Mitral valve prolapse anxiety with hyperventilation,				
Oesophageal spasm	opioid dependancy			

Note: Chest pain is myocardial ischaemia until proven otherwise.

Aortic dissection

The pain, which is usually sudden, severe and midline, has a tearing sensation and is usually situated retrosternally and between the scapulae (see Fig. 30). It radiates to the abdomen, flank and legs.

An important diagnostic feature is the inequality in the pulses (e.g. carotid, radial and femoral). Control of associated hypertension is the basis of treatment while emergency surgery may be needed, esp. for type A aneurysms (arising in ascending aorta).

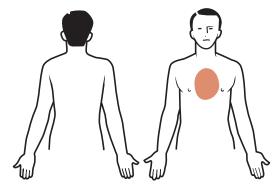


Figure 29 Pain of myocardial ischaemia: typical site

 Table 20
 Types of acute coronary syndromes

	Serum markers Creatine kinase Troponin		ECG at evaluation
Unstable angina low risk high risk	normal normal	non-detectable detectable	normal ST depression
Myocardial infarction • non-ST elevation	elevated	detectable	ST depression, no Q wave
ST elevation (STEMI)	elevated	detectable	±Q wave

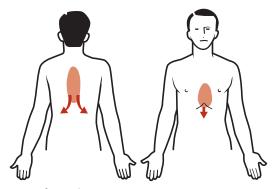


Figure 30 Pain of aortic dissection

Pulmonary embolism

This has a dramatic onset following occlusion of the pulmonary artery or a major branch, esp. if more than 50% of the cross-sectional area of the pulmonary trunk is occluded.

The diagnosis can present clinical difficulties, esp. when dyspnoea is present without pain. The key investigations are the ventilation/perfusion (V/Q) study and digital subtraction angiography. Embolism usually presents with retrosternal chest pain (see Fig. 31) and may be associated with syncope and breathlessness. Treatment is by urgent anticoagulation (heparin then warfarin) or thrombolytic therapy or sometimes surgical embolectomy.

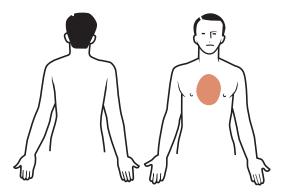


Figure 31 Pain of pulmonary embolism

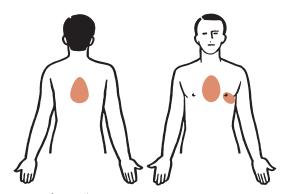


Figure 32 Pain of pericarditis

Acute pericarditis

Pericarditis, which has several causes, can lead to 3 distinct types of pain (see Fig. 32):

- pleuritic (the commonest), aggravated by cough and deep inspiration, sometimes brought on by swallowing
- 2 steady, crushing, retrosternal pain that mimics myocardial infarction
- 3 pain synchronous with the heartbeat and felt over the praecordium and left shoulder

Treatment mainly involves pain control with aspirin or indomethacin.

Spontaneous pneumothorax

The acute onset of pleuritic pain and dyspnoea in a patient with a history of asthma or emphysema is the hallmark of a pneumothorax. It often occurs in young slender males without a history of lung disorders.

Psychogenic pain

Psychogenic chest pain can occur anywhere in the chest, but often it is located in the left submammary region, usually without radiation (see Fig. 33). It tends to be continuous and sharp or stabbing. It may mimic angina but tends to last for hours or days. It is usually aggravated by tiredness or emotional tension and may be associated with shortness of breath, fatigue and palpitations.

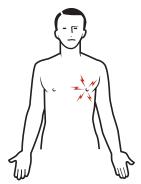


Figure 33 Typical site of psychogenic pain

Chilblains

Precautions

- · Think Raynaud's
- · Protect from trauma and secondary infection

- · Do not rub or massage injured tissues
- · Do not apply heat or ice

Physical treatment

- · Elevate affected part
- · Warm gradually to room temperature

Drug treatment

 Apply glyceryl trinitrate vasodilator spray or ointment or patch (use plastic gloves and wash hands for ointment)

Other treatment

Rum at night

• Nifedipine CR 30 mg/d

Children: normal developmental milestones

Table 21 Developmental milestones

Milestone	Age (average)
Lifts chin up	4 weeks
Notices sudden constant sounds (e.g. vacuum cleaner)	4 to 5 weeks
Social smile	6 weeks
Smiles readily	2 months
Follows moving person with eyes	2 months
Laughs	3 months
Recognises mother	3 months
Reponds to loud noise	3 months
Grasps and plays with rattle	3 to 4 months
Turns to voice	3 to 4 months
Lifts head	3 to 4 months
Rolls over (prone to supine)	4 months
Sits with support	4 to 6 months
Rolls (supine to prone)	5 months
Transfers objects from hand to hand	5 to 8 months
Feeds self biscuit/rusk	6 to 8 months
Laughs, squeals and chuckles	6 to 8 months
Sits without support	6 to 9 months
Stands holding on	6 to 10 months
Crawls	7 to 9 months
Anxious with strangers	8 to 9 months
Waves goodbye	8 to 12 months
Pulls up to stand	9 to 10 months
Understands 'no'	9 to 10 months
Cruises	10 to 11 months
Finger feeds	10 to 12 months
Says mama/dada (appropriate)	10 to 18 months
Walks alone or with one hand held	10 to 15 months
First word	11 to 12 months

Children: developmental disorders

Growth and puberty problems

Short stature

This is considered to be a psychosocial and physical handicap if the definitive height is in:

- males <162.6cm (5' 4")
- females <152.4cm (5' 0")

General causes to consider:

- · constitutional delay in maturing—late growth spurt
- familial short stature of a genetically small family
- · organic causes (e.g. coeliac disease)

Treatment (specialist supervision)

· Recombinant growth hormone (somatropin)

Criteria

- · Height below 1st percentile
- Growth velocity <25th percentile for bone age
- Bone age <13.5yrs ♀; <15.5yrs ♂

Rough rule for expected adult height based on parental height:

- boys—mean of parents' heights + 7cm
- girls—mean of parents' heights 7cm

Tall stature

Where the estimated mature height is for:

- males 193.1cm (6' 4")
- females 182.9cm (6')

Reassurance, counselling and education may alleviate the family's concerns. If treatment appropriate (after the appearance of the first pubertal change), high-dose oestrogen in girls and testosterone in boys.

Growing pains (benign nocturnal limb pain)

Features

- typical age 3–7yrs
- · positive family history
- · pain wakes child
- · poorly localised in leg-knee, shin, calf
- lasts 20-30mins, regardless of Rx
- normal examination
- · no pain or disability next morning

Management

- reassurance
- · resolves spont. in time
- consider heat pack
- · massage is helpful
- · check ESR if in doubt

Delayed puberty

This is the absence of pubertal development in:

- girls >14yrs
- boys >15yrs

If familial or constitutional (delayed growth and bone age), no investigation. If in doubt order a bone age X-ray. Manage according to findings (e.g. chronic asthma) or refer to a paediatric endocrinologist. Treatments include testosterone in boys and oestradiol in girls.

Precocious puberty

This is the appearance of true puberty in:

- girls <8yrs
- boys < 9.5yrs

Investigations If concerned include FSH and LH, gonadal steroid (testosterone or oestradiol), bone age and MRI of cranium if ↑FSH or LH.

Management

- · If evolving slowly—no treatment
- · If concerned, refer to paediatric endocrinologist

Premature thelarche

This is isolated breast development in girls <8 yrs. It is benign and observe with reassurance.

Premature adrenarche

This is the isolated appearance of pubic hair (usually in a girl) <8 years without other features of virulisation. It is usually a normal variant but watch for congenital adrenal hyperplasia.

Pubertal breast hyperplasia

This is a normal variant of puberty. It is common in normal adolescent males and is transient. There is no hormonal, medical or surgical treatment.

Intellectual disability

This is regarded as a component of developmental disability and refers to significant substandard intellectual functioning (2 SDs < mean IQ) with

deficits in adaptive behaviour and manifested during the development period. Presentation includes learning difficulties, language delay and behavioural problems.

The two most common causes are trisomy 21 and fragile X syndrome.

Cerebral palsy

Definition

A persistent motor disorder of movement and posture resulting from prenatal developmental abnormalities or perinatal or postnatal CNS damage (to the immature brain). Includes spasticity, ataxia and involuntary movements.

Facts

- Cerebral palsy is not a diagnosis but a diverse group of disorders.
- · In most cases the cause is unknown.
- · Fewer than I in IO cases result from hypoxia.
- Prevalence is ~2/1000 live births.

Management

- · Accurate diagnosis
- · Genetic counselling
- · Assessment of child's capabilities
- Referral to several agencies for assessment (e.g. hearing, vision, dietitian, speech pathologist, various other allied health professionals): best refer to cerebral palsy clinic
- · Monitor problematic areas (e.g. constipation)
- Orthopaedic assessment with special attention to legs (e.g. hips, knees, hamstrings)

Down syndrome

Down syndrome (trisomy 21) is based on typical facial features (flat facies, slanting eyes, epicanthic folds, small ears), hypotonia and single palmar crease.

Associated disorders

- Seizures (usually later onset)
- · Impaired hearing
- Leukaemia
- Hypothyroidism
- · Congenital anomalies (e.g. heart, duodenal tresia, Hirschsprung's, TOF)
- · Alzheimer-like dementia (4th-5th decade)
- Prevalence 1/650 live births

Management

- · Assess child's capabilities.
- Refer to agencies for assessment (e.g. hearing, vision, developmental disability unit).

 Advise on sexuality, esp. for females (i.e. menstrual management, contraception) as fertility must be presumed.

Fragile X syndrome (FXS)

FXS presents as a classic physical phenotype with large prominent ears, long narrow face, macro-orchidism and intellectual disability. It is the most common inherited cause of development disability known and should always be considered.

Diagnosis

- · Cytogenic test (karyotyping)
- DNA test (specific for full mutation as well as carriers)

Management

- · Careful genetic appraisal and counselling
- · Assessment of child's capabilities
- · Multidisciplinary assessment inc. developmental disability unit
- Referral for integration of speech and language therapy, special education, behaviour management
- Pharmacological treatment of any epilepsy, or attention or mood behaviour disorders
- Medications may determine whether the child remains in the community or not

Prader-Willi syndrome

This uncommon disorder (I in IO 000–I5 000) has classic features, esp. a bizarre appetite and eating habits, of which a GP should be aware. The most common cause is deletion in the short arm of chromosome I5.

Features

- · Hypotonic infants with failure to thrive, then
- · Voracious appetite causing morbid obesity
- Mental retardation
- · Narrow forehead and turned-down mouth
- · Small hands and feet
- Hypogonadism

Management

- · Early diagnosis and referral
- · Multidisciplinary approach
- · Expert dietetic control

Williams syndrome

Williams syndrome (idiopathic hypercalcaemia or elfin face syndrome) is of unknown cause. The children have a distinctive elfin appearance, mild pre- and postnatal growth retardation, mild microcephaly and mild to moderate development delay. In the first 2yrs of life, feeding problems,

vomiting, irritability, hyperacusis, constipation and failure to thrive may lead to presentation, but the children are rarely diagnosed at this stage.

Specific learning disabilities (SLDs)

A specific learning disability is an unexpected and unexplained condition, occurring in a child of average or above intelligence, with significant delay in one or more areas of learning. These areas include reading, spelling, writing, arithmetic, language (comprehension and expression), attention and organisation, coordination and social and emotional development. An SLD can vary from very mild to quite severe. It may, in turn, cause a general learning disability. The primary cause is unknown.

Diagnosis If undetected by parents, any undisclosed SLD will soon be detected in the classroom. Sometimes the disability is not detected until later (≥8yrs) when more demanding schoolwork is required. Speech delays, reading difficulties and calculation problems are among the first signs. It is important to check hearing and vision. These children may also present with a behaviour disorder as they are often subject to ridicule by other children and tend to develop a poor self-image and low self-esteem.

Management Children with SLDs are usually referred to an experienced professional or to a clinic (e.g. a dyslexia clinic) for assessment. Management may involve a clinical psychologist, an audiologist, an optometrist or a speech pathologist. A specific method of correcting the problem and promoting learning will be devised. It is also worthwhile seeking the help of a support organisation.

Dyslexia

Dyslexic children have a normal IQ and no physical problems, but their reading skills are below average. Other SLDs may also be present, particularly in spelling, writing and clear speaking.

The two main features are reading and spelling difficulties because dyslexic children confuse certain letters whose shape is similar, perhaps a mirror image of each other (e.g. confusing 'b' with 'd' and 'p' with 'q'). This means that affected children cannot properly use and interpret the knowledge they have acquired.

Characteristics include:

- · a reluctance to read aloud
- · a monotonous voice when reading
- · following the text with the finger when reading
- · difficulty repeating long words

These features, of course, are seen in all or most learners but, if they persist in a bright child, dyslexia should be considered. The most important factor in management is to recognise the problem and the earlier the better. The problem usually responds to special tuition.

Autism spectrum disorders

Autism spectrum disorders (pervasive development disorders) are lifelong neurodevelopmental disorders with onset before 36mths. Three core diagnostic features are impaired social interaction, impaired verbal and non-verbal communication skills and stereotyped behaviour and activities.

The spectrum can be grouped as:

- · autistic disorder
- · Asperger disorder
- · atypical autism not otherwise specified
- · Rett syndrome

Autistic disorder

Described first by Kanner in 1943, autistic disorder is a pervasive development disorder commencing early in childhood; it affects at least 4 children in 10 000, boys 4 times as commonly as girls.

Many autistic children appear physically healthy and well developed although there is an association with a range of other disorders such as Tourette's disorder and epilepsy. Most have intellectual disability but \sim 30% function in the normal range.

Autistic children show many disturbed behaviours, such as tantrums, hyperactivity and destructiveness, and impairment in communication. The earliest signs of autism in infancy include:

- · excessive crying
- · no response to cuddling if crying
- · failure to mould the body in anticipation of being picked up
- · stiffening the body or resisting when being held
- · failing to respond or overreacting to sensory stimuli
- persistent failure to imitate, such as waving goodbye
- no babbling by 1yr; no single words by 16mths
- · no pointing to objects
- · poor interaction with other children
- · fascination with particular toys/objects

The diagnosis of autism remains difficult before the age of 2.

Assessment If a child has delayed and deviant development and autism is suspected, a comprehensive multi-disciplinary assessment is necessary. Referral to professionals with experience of autism is essential.

Asperger disorder

Known as high-functioning autism with:

- · impairment of social interaction
- · impairment of communication skills
- repetitive and restricted interests but usually no significant language delay
 Children seek friendships but lack the skills to make and maintain them.

Other characteristics are:

- · normal or borderline IQ
- · lack of empathy or feeling
- · lack of commonsense
- · fixed and rigid routines
- anxiety
- male preponderance

Usually diagnosed at 6yrs or older but can be diagnosed from 2yrs.

Child abuse

The various types of abuse are classified as:

- physical
- · neglect
- · emotional
- · sexual

- · female genital mutilation
- potential
- Munchausen syndrome by proxy

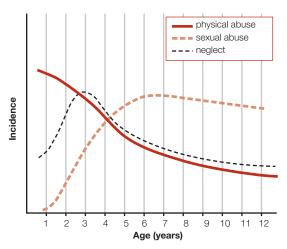


Figure 34 Typical relative age patterns for child abuse

Facts and figures

- · Girls are more likely to be abused than boys.
- · Girls are more often assaulted by someone they know.
- Most of the adults who sexually abuse are men (>90%).
- About 75% of offenders are known to the child.
- Abuse is the misuse of a power situation (e.g. a close relative) coupled with the child's immaturity.

- An Australian study showed that the distribution of child abuse was physical 15%, emotional 48%, sexual 9% and neglect 28% (see Fig. 34).
- Underdiagnosing and under-reporting are sad facts.

Definition Child abuse can be defined by the nature of the abusive act or by the result of the abuse. A parent, guardian or other carer can harm a child by a deliberate act or by failure to provide adequate care.

Physical abuse

Physical abuse should be suspected, esp. in a child <3, if certain physical or behavioural indicators in either the child or the parents are present. Bruising, esp. fingertip bruising, is the most common sign of the physically abused child.

Management The family doctor should diplomatically confront the parent or parents and always act in the best interests of the child. Offer to help the family. An approach would be to say, 'I am very concerned about your child's injuries as they don't add up—these injuries are not usually caused by what I'm told has been the cause. I will therefore seek assistance—it is my legal obligation. My duty is to help you and, especially, your child.'

The stages of management are:

- · recognition or disclosure of abuse
- · the family separation phase
- working towards rehabilitation
- finding a new family for the child, when rehabilitation fails

Sexual abuse

Incest and sexual abuse of children within the family occur more frequently than is acknowledged.

Sexual abuse presents in three main ways:

- allegations by the child or an adult
- injuries to the genitalia or anus
- suspicious presentations, esp.:
 - genital infection
 - recurrent urinary infection
 - unexplained behavioural changes/psychological disorders

Sexual abuse can take many forms, inc.:

- · genital fondling
- · digital penetration
- · penetration with various objects
- · simulated sexual intercourse (anal in boys)
- · full sexual penetration
- pornography
- prostitution

Management It is important to act responsibly in the best interests of the child. It is important to realise that the child will be in crisis. Children are trapped into the secrecy of sexual abuse, often by a trusted adult, by powerful threats of the consequences of disclosure. When we encounter real or suspected child abuse, immediate action is necessary. The child needs an advocate to act on its behalf and our intervention actions may have to override our relationship with the family. Some golden rules are:

- · Never attempt to solve the problem alone.
- Do not attempt confrontation and counselling in isolation (unless under exceptional circumstances).
- Seek advice from experts (only a telephone call away).
- Avoid telling the alleged perpetrator what the child has said.
- Refer to a child sexual assault centre where an experienced team can take the serious responsibility for the problem.

Supporting the child

- · Acknowledge the child's fear and perhaps guilt.
- · Assure the child it is not his or her fault.
- · Tell the child you will help.
- · Obtain the child's trust.
- Tell the child it has happened to other children and you have helped them.

Practice tips and guidelines

- A child's statement alleging abuse should be accepted as true until proved otherwise.
- · Children rarely lie about sexual abuse.
- False allegations, however, are a sign of family disharmony and an indication that the child may need help.
- Do not insist that the child 'has got it wrong', even if you find the
 actions by the alleged perpetrator unbelievable.
- Do not procrastinate—move swiftly to solve the problem.
- Be supportive to the child by listening, believing, being kind and caring.

Note: All family doctors should become familiar with local legislation about mandatory reporting.

When to refer Unless there are exceptional circumstances, referral to an appropriate child abuse centre where an expert team is available is recommended. If doubtful, relatively urgent referral to a paediatrician is an alternative

Childhood: common infectious diseases

Skin eruptions

Measles

If an acute exanthematous illness is not accompanied by a dry cough and red eyes, it is unlikely to be measles.

Encephalitis (I in 1500) is the complication of concern.

Diagnosis: serology or nasophanyngeal aspirate (PCR)

Treatment

- · No specific treatment
- · Symptomatic (e.g. cough linctus)
- · Rest quietly
- · Stay in bed until fever subsides
- · Ample fluid intake
- Exclusions (patient 5d, non-immunised contacts 14)

Prevention

· Combined vaccine at 12mths and 4yrs

Rubella

A minor illness in children but congenital rubella is still the most important cause of blindness and deafness in the neonate. It is completely preventable.

Post-auricular lymphadenopathy and facial rash are features.

Diagnosis: serology

Treatment

- Symptomatic
- Rest quietly until well
- Paracetamol for fever and arthralgia
- · Exclusions (patient 5d, contacts nil)

Prevention

· Combined vaccine at 12mths and 4yrs

Scarlet fever

Caused by the toxin of *Streptococcus pyogenes*. Treated with phenoxymethylpenicillin: Iomg/kg up to 500mg (o) 12hrly for Iod.

Viral exanthema (fourth syndrome)

Rubella-like rash, often misdiagnosed. Rash mainly confined to trunk. Child usually well or has mild symptoms. Treatment is symptomatic.

Erythema infectiosum (fifth syndrome)

'Slapped cheek' syndrome is caused by a parvovirus. A maculopapular rash mainly on the limbs with bright red flushed cheeks. Diagnosis is by serology (if necessary). A mild illness but a problem in pregnancy. No exclusions.

Roseola infantum (exanthema subitum or sixth syndrome)

Viral infection (human herpes virus 6) of infancy usually 6–18mths. Rash appears as high temperature subsides. Treatment is symptomatic.

Chickenpox (varicella)

Onset

- · Children: no prodrome
- Adults: prodrome (myalgia, fever, headaches) for 2-3d

Rash

- · Centripetal distribution, inc. oral mucosa
- · Scalp lesions can become infected
- 'Cropping' phenomenon: vesicles, papules, crusting lesions present together
- Pruritic

Treatment Treatment is symptomatic and usually no specific therapy is required.

- · Reassurance that lesions do not usually scar
- Rest in bed until feeling well
- · Give paracetamol for fever
- · Drink ample fluids; keep diet simple
- · Calamine lotion to relieve itching
- Daily bathing with sodium bicarbonate (½ cup added) or Pinetarsol (preferable) in bath water
- Avoid scratching
- Antihistamines for itching if necessary
- Aciclovir or similar agent in patients >14yrs (commence only during first 3d of eruption) to help avoid complications, inc. scarring

Exclusions

· Patient 7d, contacts nil apart from immune deficient

Prevention

Varicella vaccine from ≥18mths of age

Hand, foot and mouth (HFM) disease

Known as 'creche disease' it is a mild vesicular eruption caused by a Coxsackie A virus usu. in children <10 yrs. Red macule progresses to vesicles 1–2d after sore mouth and throat.

Treatment

- Symptomatic
- Paracetamol for fever
- · Careful hygiene (very infective)
- Rinse mouth with salt water after eating
- · Increased fluid intake (use straw for drinking)
- · Exclusion not recommended

Kawasaki disease

<u>317</u>

Others

Mumps (epidemic parotitis)

Unilateral or bilateral inflammation of the parotid gland is usual: one parotid gland swells first and in 70% of cases the opposite side swells after 1 or 2d. Relatively common complications include orchitis, aseptic meningitis (benign) and transient abdominal pain.

Treatment

- Symptomatic
- · Paracetamol for fever
- · Ample fluid intake and bed rest
- · Exclusions (patient 9d, contacts nil)

Prevention

· Combined vaccine 12mths and 4yrs

Pertussis (whooping cough)

Mainly occurs in infants <2 yrs. Diagnosis is basically clinical—cough lasting 4–8 wks with three distinct stages of the disease. Confirmed by PCR tests of nasopharyngeal aspirate or throat swab: IgA serology.

Note: Chlamydia respiratory infection can cause a 'pseudopertussis' type of illness.

Treatment

- Admit to hospital if quite severe attack and all infants <6 mths
- Symptomatic (cough mixtures are ineffective)
- Clarithromycin or azithromycin or erythromycin for 7d, esp. in catarrhal stage to reduce period of communicability (won't alter illness)

Prevention

• Triple antigen (DTP) 2mths, 4mths, 6mths, 4yrs

Exclusions

 Patient 5d after starting antibiotics, 14 in non-immunised contacts inc. family, who should have 7d of prophylactic antibiotics

Children: special observations

The diagnostic approach to the child is based on the ability to achieve good lines of communication with both the child and the parent.

Establishing rapport

Showing a genuine interest in the child with strategies such as:

- · asking them what they like to be called
- passing a compliment about the child, such as a clothing item or a toy
 or book they are carrying
- · taking time to converse with them
- asking them if they would like to be a doctor when they grow up
- · asking about their teacher or friends

To facilitate the examination:

 play games, such as a flashing light, tickling or peekaboo, and use any type of noise, particularly animal noises

Distract attention with strategies such as:

- · small animal images (e.g. koalas on stethoscopes)
- · a small toy duck with rattle inside to palpate abdomen
- · a clockwork revolving musical toy over examination couch
- a mechanical toy (e.g. rabbit playing a drum on the desk)

Recognition of serious illness in infancy

It is vital to diagnose serious life-threatening disease in children, esp. in early infancy. The signs of a very sick child include:

- · inactive, lying quietly, uninterested
- reduced mental state
- · increased respiratory rate
- increased work of breathing
- · noisy breathing
 - chest wall retraction
 - wheezes, grunting, stridor
- tachycardia
- sunken eyes
- · mottled, cold, pale skin
- · drowsiness

(red flag signs, 🗅 129–30)

Serious illnesses to consider include:

- · meningococcal infection
 - septicaemia
 - meningitis

Note: Meningococcaemia can present with a maculopapular rash before becoming purpuric.

• *H. influenza* type B (Hib) infection (now uncommon since Hib immunisation)

- acute epiglottitis
- meningitis
- · other forms of meningitis
- · acute myocarditis
- · asthma/bronchitis/bronchiolitis
- · pneumonia
- · intussusception/bowel obstruction/appendicitis
- · severe gastroenteritis
- · urinary tract infection

The child as a barometer of the family

A disturbed child is a very common indicator of family disharmony. There is a saying that 'love is to a child what sunlight is to a flower'.

The child's reaction to the family disharmony may manifest in three ways (with significant overlap):

- · behavioural problems
- · psychosomatic symptoms
- · school difficulties

Failure to thrive (FTT)

FTT is failure to gain expected weight, being below the 3rd percentile up to 2yrs. It is an indicator of an underlying disorder, either non-organic (psychosocial) or organic. The main reasons for FTT (up to 90%) are nutritional deprivation and normal variants.

Non-organic FTT can be caused by emotional deprivation or by poor nutrition from inadequate intake. A home visit to evaluate the home environment, including adequacy of parenting, is invaluable. This includes liaison with a community nurse.

Organic FTT includes kidney failure; endocrine diseases (e.g. hypothyroidism); various causes of malabsorption (e.g. coeliac disease, cystic fibrosis); cardiac disorders; various inborn errors of metabolism; mental retardation and sleep apnoea. Babies born to mothers who are HIV carriers present with FTT in the first 5mths with or without signs of disease.

Screening tests include routine blood counts, urinalysis and culture, Guthrie tests for PKU, TFTs, urogram and chromosomal and hormone analysis.

Guidelines for referral for physical maldevelopment

- Weight <1 to 3 centiles or >99th centile
- · Persistent downward crossing of weight centiles
- Length <ist centile or >99th centile
- Head circumference <1st centile or >99th centile
- · Any suspicion of abnormality

Children's behaviour disorders

Attention deficit hyperactivity disorder

Diagnostic criteria

- A. Either I or 2
 - I inattention
 - 2 hyperactivity and impulsiveness
- B. Onset no later than 7yrs
- C. Symptoms must be present in 2 or more situations (e.g. at school and at home)
- D. Disturbance causes clinically significant distress or impairment in social, academic or occupational functioning

Management

- · Protect child's self-esteem
- Counsel and support family
- · Involve teachers
- Refer to appropriate consultant (e.g. child psychiatrist)
- · Refer to parent support group

Diet: Exclusion diet probably ineffective but encourage good diet (consider dietitian's help).

Pharmacological: Based on psychostimulants for ≥4yrs:

- methylphenidate (Ritalin) o.3mg/kg (o)/d in 2 divided doses or dexamphetamine, 2.5-10mg/d (based on o.15-o.5mg/kg (o)/d) in 2 divided doses if >5mg
- antidepressants (e.g. SSRIs) and line but may become 1st line $\,$

Breath-holding attacks

₽ 8т

Conduct disorders

Conduct disorders affect 3–5% of children and represent the largest group of childhood psychiatric disorders.

Clinical features

- · Antisocial behaviour which is repetitive and persistent
- · Lack of guilt or remorse for offensive behaviour
- Generally poor interpersonal relationships
- · Manipulative
- · Tendency to aggressive, destructive, 'criminal' behaviour
- Learning problems (~50%)
- Hyperactivity (¹/₃)

Management

 Early intervention and family assistance to help provide a warm, caring family environment

- · Family therapy to reduce interfamily conflict
- Appropriate educational programs to facilitate self-esteem and achievement
- Provision of opportunities for interesting, socially positive activities (e.g. sports, recreation, jobs, other skills)
- · Behaviour modification programs

Crying and fussing in infants

Crying and fussing is quite normal in first 3mths. Crying is excessive if it lasts for long periods when baby should be sleeping or playing (usually 6–9pm). Organic causes which are uncommon should be considered.

Checklist of common causes

- · hunger (usually underfeeding)
- · wet or soiled nappy
- loneliness (crying ceases when picked up)
- infantile colic (usually 2–16wks)
- · individual temperament
- teething (
 ¹ 435)

Management

- Perform physical examination (include assessment of child's temperament).
- · Give parental reassurance and education.
- Reassure that extra attention (not overstimulation) is okay.
- Provide soothing alternatives (e.g. use of dummy/pacifier, extra cuddling and carrying, gentle massage).

The five S's

- I Swaddling—firm clothes
- 2 Side or stomach—lie baby on side or stomach
- 3 Shush, i.e. 'sshusshing' as loud as the child
- 4 Swing—sway from side to side
- 5 Suckling—nipple, teat or pacifier

Habit cough

- · Only occurs when child awake (not during sleep)
- Usu. loud, harsh, honking or barking
- · Lasts for months
- · Diagnose by exclusion

Trigger: inter-family problems, bullying, anxiety, stress, e.g. school.

Management

- reassurance and explanation
- CBT

Head banging or rocking

This is common <4yrs when going to sleep, esp. in 3 yo. It is also a feature of severe emotional deprivation. It is quite different to a child hitting the head with the hands. Reassure parents that the problem settles by 4–5yrs.

- · Advise distraction or actively ignoring the behaviour.
- · Avoid reinforcing it by excessive attention or punishment.
- · Advise placing bed or cot in middle of room, away from wall.
- · Restrict bedtime (if appropriate).

Oppositional behaviour

A common feature of 2–4 yo as well as school-aged children. Interview the child and family to determine whether it is normal or abnormal. Supportive counselling and behaviour modification works effectively. Look for and praise or reward 'good' behaviour. Praise (or chastise) behaviour rather than the individual. 'Time out' is the best disciplinary measure for those >18 mths (max. I min/yr of age) and withdrawal of privileges for those >6yrs.

Parainsomnias (night terrors, sleep talking and walking)

These are not true sleep disorders or night-time arousals but occur in deep sleep.

Night terrors, which cluster around 2–4 and 6–9yrs, last 1–2mins. The child is usually inconsolable and has no memory for the event.

- · No active treatment usually needed
- 6-wk trial of phenytoin or imipramine or hypnotics if severe and persistent with injury risk

Poor eating

Assess the validity of this complaint with a careful history, checking the weight on the normal chart and comparing the diet with ideal. Management involves pointing out what is necessary from a nutritional viewpoint as opposed to what is considered normal for the particular culture.

Sleep disorders

Management Advice to parents:

- Resist taking the child into bed during the night unless they are happy to encourage this.
- Avoid giving attention to the child in the middle of the night—it
 encourages attention seeking.
- Return the child to bed promptly and spend only a brief time with it to give reassurance.
- A rigid series of rituals performed before bedtime helps the child to develop a routine. Settling to sleep may be assisted by soft music, a soft toy and a gentle night-light.

Medication has a minimal place in the management of sleep disturbances although the judicious use of sedative/hypnotics for a short term may break the sleepless cycle. Such drugs include trimeprazine (Vallergan) I-2mg/kg per dose.

Stealing

Isolated theft, which is common, may reflect normal risk-taking behaviour, a reaction to stress, low self-esteem, peer group pressure or a 'cry for help and attention'.

Management

- Insist on retribution—return of goods or payment with personal apologies
- · Withdraw appropriate privileges
- · Refer for psychotherapy if persistent

Stuttering and stammering

Features of stuttering

- Affects \sim 5% of children \rightarrow 1% of adults
- · More common in boys
- Usually begins under 6yrs of age (2-5yrs)
- · No evidence of neurotic or neurological disorder
- Causes anxiety and social withdrawal

Management Although most stutterers improve spontaneously, speech therapy from a caring competent speech pathologist is very successful (at least 90%). Not all children 'grow out of it'.

Temper tantrums

The tantrum is a feature of the 'terrible twos' toddler whose protestation to frustration is a dramatic reaction of kicking, shouting, screaming, throwing or banging of the head. Tantrums are more likely to occur if the child is tired or bored.

Management Reassure parents that the tantrums are relatively commonplace and not harmful. Explain the reasons for the tantrums and include the concept that 'temper tantrums need an audience'.

Advice

- Ignore what is ignorable: parents should pretend to ignore the behaviour and leave the child alone without comment, including moving to a different area (but not locking the child in its room).
- Avoid what is avoidable: try to avoid the cause or causes of the tantrums (e.g. visiting the supermarket).
- Distract what is distractable: redirect the child's interest to some other object or activity.

· Praise appropriate behaviour.

Medication has no place in the management of temper tantrums.

Tics (habit spasm)

Most are minor, transient facial tics, nose twitching, or vocal tics such as grunts, throat clearing and staccato semi-coughs. Most of these tics resolve spontaneously (usually in less than Iyr) and reassurance can be given.

Tourette's disorder

Also known as Gilles de la Tourette's syndrome or multiple tic disorder, this disorder usually first appears in children between 4–15yrs and has a prevalence of I:Io 000. Diagnosis is based on recurrent tics over a period >1yr in which there is never a tic-free period for >3mths.

Clinical features

- · More common in boys
- · Bizarre multiple motor tics
- · One or more vocal tics
- Echolalia (repetition of words)
- Coprolalia (compulsive utterances of obscene words)
- · Familial: dominant gene with variable expression

Treatment

- · Education and counselling of patient, parents and teachers
- · Haloperidol, clonidine or pimozide (if necessary).

Children: surgical problems

Ear, nose, face and oral cavity Prominent bat/shell ears

- Optimal time for surgical correction is after 5–6yrs.
- Possible to correct by moulding ear with tape within first 6mths.

Facial deformity

Refer as soon as it is detected.

External angular dermoid

Lies in outer aspect of eyebrow. Progressively enlarges. Best excised.

Cleft lip and cleft palate

Be careful of the 'hidden' sub-mucus cleft—bifid uvula and deep groove in midline of palate. Ideal age for repair of cleft lip is <3mths and the palate 6–12mths before the child begins to speak.

Nasal disorders

- · Rhinoplasty is best deferred to late adolescence.
- Choanal atresia can lead to asphyxia if bilateral and the thin membrane can be perforated with a urethral sound as an emergency procedure.

Tongue tie

Consider with breastfeeding problems and an inability to protrude the tongue beyond the lips. Often a strong family history. Surgery is usu. recommended in first 4 months or later at 2–6 years.

Pre-auricular sinus

If infected, discharges pus from tiny opening at level of meatus in front of the upper crus of the helix. Refer for surgical excision but it can be left if unproblematic.

Branchial sinus/cyst/fistula

Located inferior to the external auditory meatus or anterior to the sternomastoid muscle. Refer for excision.

Eyes

Strabismus (squint)

□ 128

Blocked nasolacrimal duct

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Neck lumps

80% of neck lumps are benign. Benign lumps usu. occur in anterior triangle while malignant lumps are commonly in posterior triangle.

Sternomastoid tumour/fibrosis

Features in infants:

- hard painless lump (2-3cm) in muscle
- · tight and shortened sternomastoid
- apparent at 20-30 days of age
- · torticollis—head away from tumour

Most resolve spont. within 1yr. Refer to physiotherapy early. Gently massage lump and stretch neck towards tumour. Rarely surgery—best <12 mths

Thyroglossal cyst

This most common midline neck swelling moves with swallowing and tongue protrusion. Prone to infection inc. abscess. Best to excise early.

Lymphatic malformation/cystic hygroma

Presents as a soft cystic tumour of neck, face or oral cavity. Poor localised cluster of vesicles ±visible red dots. Surgery best early. If in mouth/pharynx can endanger airway.

Cervical lymphadenopathy

Most enlarged nodes are either 'normal' or local infections (mainly viral) esp. if <2cm diameter and not hard or fixed. Inflammatory nodes are of concern if supraclavicular node enlargement and fever.

Suspicious nodes are >2.5cm, firmer consistency and less mobile. Refer for investigation.

MAIS (Mycobactyerium AIS) lymphadenitis

Painless swelling (cold abscess) over 4–6 wks in 2–3 yo child unresponsive to antimicrobials: treat by surgical excision.

Congenital heart disorders

Ventricular septal defect

Early surgery performed by 6mths esp. if heart failure, but can be at any age from newborn. About 50% close spontaneously. Some closed by an occlusive device through a percutaneous cardiac catheter.

Atrial septal defect

An echocardiogram is diagnostic. Refer early esp. if ostium primum. Closure advisable if symptoms bothersome. Options are direct surgery (suturing or patch) or closure device (as for VSD).

Patent ductus arteriosus

If causing problems, refer for surgical closure or occlusive device, on advice of cardiologist.

Coarctation of aorta

Usually presents in infancy with heart failure. Refer for early surgery.

Hernias and genital disorders Hernias

Guidelines for intervention for hernias are summarised on \(^{\textstyle 1}\) 129. As a rule, inguinal and femoral hernias should be referred urgently for early surgery to avoid high risk of strangulation.

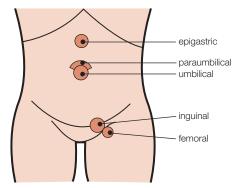


Figure 35 Sites of common hernias

Hydroceles

90% resolve spont. by 18mths and if persistent >2yrs, refer with a view to surgery.

Hypospadias

Look for other GUT abnormalities. Refer ASAP if child not producing good urinary stream. Otherwise refer by 6mths with view to surgery at ~12mths. Never circumcise.

Foreskin and circumcision

If not circumcised in neonatal period, circumcision is best performed under GA after 6 mths following counselling and with consent of both parents.

Phimosis

Real phimosis is uncommon and almost all cases of tight foreskin with narrowing of preputial orifice resolve naturally (\(\Delta\) 388)

Paraphimosis

This usu. occurs in older boys 8–12yrs when penis is erect. The foreskin is retracted, swollen and painful. Urgent reduction should be attempted. Follow-up circumcision is usu. recommended.

The 'buried' penis

The penis looks small or the foreskin quite huge and tight. There is failure of skin fixation at the base of penis ±excessive fat pad. It does not often resolve spont. and early surgical referral is advisable.

Undescended testes

Testes can still descend up to 3mths after birth. Refer by 6mths with a view to correction between 9–12mths but definitely before 2yrs (see \square 456).

Anal fissure

This is often seen in infants and toddlers with uncomfortable defectaion and minimal bright bleeding. It is caused by hard stools. Attend to any constipation. The fissure usually heals within a few days.

Fused labia (labial agglutination)

This is due to adhesions acquired from perineal inflammation (vulvovaginitis). No treatment is recommended if the child can void readily—allow natural healing to occur. Some prefer separation of the adhesions under appropriate anaesthesia.

Children: neonatal leg and foot abnormalities

Developmental dysplasia of hip

293

- Detected by clinical examination (Ortolani and Barlow tests) and ultrasound examination (ideally 6wks).
- Most cases are treated successfully by abduction bracing with a Pavlik harness or splint.
- Open reduction may be required.

Bow legs (genu varum)

- · Most are physiological (which are symmetrical and improve with age).
- · Toddlers are usually bow-legged until 3yrs.
- Monitor intercondylar separation (ICS): distance between medial femoral condyles.
- Refer when ICS >6cm, not improving or asymmetric.

Knock knees (genu valgum)

- Most are physiological and children are usually knockkneed from 3–8yrs. Running is awkward but improves with time.
- Monitor intermalleolar separation IMS): distance between medial malleoli.
- Refer when IMS >8cm.

In-toeing

The three main causes of in-toeing stem from problems at three levels (i.e. foot, tibia and femur).

Metatarsus varus: presents at birth with sole of foot bean shaped. Advise against prone nursing. Associated with DDH so check hips. Refer 3mths after presentation if not resolved.

Internal tibial torsion: presents as toddler I-3yrs. Observe and measure. Refer 6mths after presentation if problematic but usually resolves spontaneously.

Medial femoral torsion: presents later (3–10yrs) as 'inset' hips. Some children like to sit in 'W' position. Rarely need surgery. Refer after 8yrs if concerned.

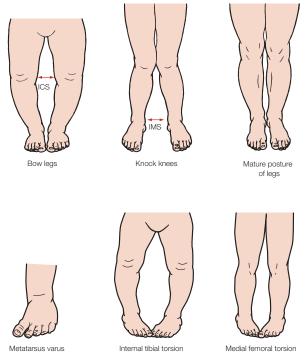


Figure 36 Postural variance of lower limbs (From D. Efron, *Paediatric Handbook*, Blackwell Scientific, Melbourne, 1996, with permission)

Out-toeing

- Infants have restricted internal rotation of hip due to an external rotation contracture
- Exhibit a 'Charlie Chaplin' posture between 3 and 12mths—up to 2yrs
- · Child weight bears and walks normally
- No treatment required as spontaneous resolution occurs. Discourage the prone sleeping position.

Surgery may be necessary in older children.

Club foot (congenital talipes equinovarus)

Most abnormal-looking feet in infants are not a true club foot deformity, the majority have postural problems such as talipes calcaneovalgus, metatarsus varus and postural talipes equinovarus. Such conditions are usually quite mobile and mild, and all resolve spontaneously without treatment. True club foot deformity is usually stiff and severe and requires orthopaedic correction.

Flat feet (pes plano valgus)

The majority are physiological. All newborns have flat feet but 80% develop a medial arch by their 6th birthday. Perform the 'tiptoe' test when the arch usually appears, indicating flexibility. No treatment is required unless painful and stiff.

Curly toes

Usually the 3rd toe curls inward under the 2nd toe. Ignore until 2yrs but refer to have any severe deformity corrected by flexor tenotomy.

Children: special senses

Visual problems

Vision is present at birth (focal depth of only 20cm) maturing to normal 'adult' vision at ~12mths following maturation of the macula, fovea and retina at ~3mths.

Visual perception gradually matures until ~7yrs but will be affected by problems such as strabismus and may lead to loss of vision (amblyopia).

If best vision is reduced to 6/18 or worse, learning problems can occur at school

Amblyopia

- · Loss of vision in a healthy eye
- Can only be treated up to 6yrs
- · Main predisposing factor is strabismus

Strabismus (squint)

- Tends to manifest from ~2wks to 3-4mths when eye used
- · Most are sensory with normal muscles
- · 75% are convergent
- · Affect normal development of binocular vision

Types

- Transient: common in neonates, not a problem
- · Manifest or constant: always present—a serious problem
- · Alternating: less serious but requires referral
- Latent: evidence under stress (e.g. fatigue, provocative testing)
- · Pseudo: apparent due to wide epicanthal folds and nasal bridge

Refractive errors

- Anisometropia: significant difference in refractive error of two eyes
- Astigmatism: variations in corneal curvature (e.g. conical cornea) affects normal focusing of light. Needs a corrective lens.
- Myopia (short sightedness): uncommon in infants and children but progressive in teens. Needs glasses with a concave lens or contact lenses.
- Hypermetropia (long sightedness): mild cases usual in infancy and early childhood. May be associated with convergent squint. Correction with convex lens.

Referral guidelines (preferably preschool)

- · Amblyopia
- · Any parental concern, inc. observation of any type of squint
- · Risk factors (e.g. physical abuse, in utero infections)
- · Head tilting on testing acuity
- Visual acuity 6/12 or worse in one or both eyes
- · Constant squint
- Alternating squint esp. after 6mths
- · Latent squints

Hearing problems

Deafness in children 🗅 162

- · Infants are born with hearing.
- · Normal hearing is essential for speech and language development.
- The first 2yrs are critical for this development but most hearing problems detected over these 2yrs.
- Hearing aids required by 12mths in deaf children. Screen at 8mths or earlier (before 10mths).

Optimal times for surgery/intervention in early children's disorders

Squint (fixed or alternating)

- 12–24mths
- · absolutely before 7yrs

Deafness (children are born with hearing)

- screen at or before 8mths
- · hearing aids required by 12mths

Tongue tie: either in first 4 mths when avascular or later at 2–6yrs Ear deformity: after 6yrs

Cleft lip: <3mths

Cleft palate: 6-12mths

Undescended testis

- best assessed before 6mths
- surgery best 6–12mths

Umbilical hernia

- leave to 4yrs
- surgery at 4yrs if persistent (tend to strangulate after 4)
- · never tape down!

Para-umbilical hernia: any age; best after 6mths

Epigastric hernia: any age; best after 6mths

Inguinal hernia

- · general rule is ASAP, esp. infants and irreducible ones
- reducible herniae: the '6-2' rule:
 - birth-6wks > surgery within 2d
 - 6wks-6mths > surgery within 2wks
 - over 6mths > surgery within 2mths

Femoral hernia: ASAP

Torsion of testicle: surgery within 4h (absolutely within 6h)

Hydrocele: leave to 12mths then review (often resolve)

Varicocele: leave and review

Children's emergencies

Important childhood emergencies include respiratory distress, poisoning, infections including severe gastroenteritis, seizures and SIDS/ALTS. Identification of the very sick infant is fundamental to emergency care.

Red flag pointers—recognising the very sick child

- · observations well outside normal range for age
- neonate $>38^{\circ}$
- pulse >140
- BP < 90/60
- respiration >40
- · increased work of breathing
- · noisy breathing
- · chest wall/sternal retraction
- pallor
- · cold extremities
- · capillary refill <2secs
- rash—fine maculopapular → purpuric
- · sunken eyes
- · inactive, lying quietly, uninterested
- · drowsiness
- · reduced mental state
- seizure

A golden rule: babies who are febrile, drowsy and pale are at very high risk and require hospital admission.

Meningitis or encephalitis

See pages under central nervous system infections 91-93.

Acute epiglottitis

Epiglottitis is characterised by the sudden onset of a toxic febrile illness, a soft voice, lack of a harsh cough, a preference to sit quietly (rather than lie down) and esp. by a soft stridor with a sonorous expiratory component. It is now uncommon where *Haemophilus influenzae* immunisation is routine but can be caused by *Strep. pneumoniae*.

Management

- Do not examine the throat.
- Escort the child to hospital—almost all require nasotracheal intubation.
- Keep the child calm—allow mother to nurse child.
- If obstruction, gently bag and mask with 100% oxygen.

Method of emergency cricothyroidotomy (last resort)

- · Lie the child across your knees with neck fully extended.
- Insert a number 14 needle or angiocath through the cricothyroid membrane.

Always try to intubate once before resorting to cricothyroidotomy.

Hospital treatment Intubation: in theatre suck away profuse secretions and perform nasotracheal intubation.

Antibiotics: cefotaxime 50mg/kg IV (max. 2g) 8 hrly or ceftriaxone 50mg/kg to max. 2g/d IV as single daily dose

Note: Continue therapy for 5 days. Early transfer to oral therapy (e.g. amoxycillin/clavulanate) is desirable.

Poisoning

Dangerous drugs for accidental poisoning include all cardiac drugs, antidepressants, antipsychotics and anxiolytics, iron tablets, Lomotil, analgesics, alcohol, potassium, opioids and 'designer' drugs.

Principles of treatment

- Support vital functions A, B, C, D (D = dextrose)
- Dilute the poison—with milk or water (1 cup)
- Delay absorption—activated charcoal (the preferred method) in fully conscious patient with airway protection
 1g/kg oral or via fine bore nasogastric tube (best) or as 'black jelly' (charcoal + glycerine)—check with emergency physician
- Administer antidote (if available) early (e.g. bicarbonate for tricyclics, N-acetyl-cysteine for paracetamol)
- Treat any complications (e.g. cardiac arrhythmias)

Swallowed foreign objects

A golden rule: The natural passage of most objects entering the stomach can be expected, but very large coins need to be watched carefully.

X-ray all children (mouth to anus, esp. chest and abdomen) on presentation. The oesophagus is a concern.

Button/disc battery ingestion If not in stomach, these (esp. lithium batteries) create an emergency if in oesophagus, because of perforation. Must be removed ASAP. This also applies to insertion in the ear canal and nares

Inhaled foreign bodies

Most cough the FB out naturally, so encourage coughing. A finger sweep helps, as does back blows and the Heimlich manoeuvre if >8 years age (take care with viscera). A good guide is the rule of 5's—5 breaths, 5 back blows, 5 lateral chest thursts, 5 abdominal thrusts (older child).

Management of other emergencies

Febrile convulsions 🗅 241 Anaphylaxis 🗅 21 Asthma 🗅 52 Breath-holding attacks 🗅 81 SIDS and ALTE 🗅 431 Croup 🗅 158 Bronchiolitis 🗅 81 Gastroenteritis 🗅 254

Collapse in children

The child's brain requires two vital factors: oxygen and glucose.

Initial basic management

- I Lie child on side.
- 2 Suck out mouth and nasopharynx.
- 3 Intubate or ventilate (if necessary).
- 4 Give oxygen 8-10L/min by mask.
- 5 Pass a nasogastric tube (lubricated):
 - 0-3yrs 12 PG
 - 4–10yrs 14 PG
- 6 Pay attention to circulation. Give blood, Haemaccel or N saline.
- 7 Take blood for appropriate investigations.
- 8 Consider 'blind' administration of IV glucose.

Note: Once an endotracheal tube is in place, drugs used in paediatric CPR can be given by this route (exceptions are calcium preparations and sodium bicarbonate).

Endotracheal tube-for respiratory arrest use uncuffed

$$Size = \frac{age in years}{4} + 4$$

or size of child's little finger or nares

If intubation difficult

- · Oral airway
- · Bag and mask
- · Consider needle cricothyroidotomy 14-16g Jelco in caudal direction

Basic life support

- Chin lift so head in 'sniffing' position
- 2–5 rescue breaths (RBs)
- Chest compressions—30 to 2 RBs
 - lower 3rd sternum to 1/3 A-P chest diameter
 - 100/min
 - 2 fingers <1yr
 - 1-2 hands >1yr

Children's skin and hair disorders

Neonatal period and early infancy

Toxic erythema of newborn

This is a self-limiting benign condition with onset usually 24–48hrs after birth (up to 14 days). Erythematous macules mainly on face and trunk. Resolves spont. in a few days.

Transient neonatal pustular dermatosis

This is a blistering eruption with pustules presenting at birth or in the first few hours of life. Occurs mainly on the trunk and buttocks. No treatment required.

Naevus flammeus (salmon patch)

Dilated capillaries form on face and eyelids (~50% of babies) and nape of neck (almost 100%). Fades over 6–12mths but neck patches may persist into adult life. No treatment required.

Capillary malformation (port wine stain)

Present from birth—surgery inadvisable. Assessment for underlying vascular abnormalities advised if the lesion is in the area supplied by the ophthalmic or maxillary divisions of the trigeminal nerve. Consider the Sturge–Weber syndrome—associated intellectual disability and epilepsy.

The stains can be considered for pulsed dye laser therapy—probably best in first 2yrs or when the colour changes to bluish-red, usually in early adulthood. Cosmetic camouflage useful.

Cavernous haemangioma (strawberry naevus)

Usually on head and neck. Starts as a pinpoint red lesion at birth and grows up to the age of 6–12 mths, then slow involution up to 5–10 yrs. Reassure parents and show how to stop any bleeding. Worst complication is ulceration (use dressings with Duoderm or Intrasite gel). Lasers can promote healing but treatment usually unnecessary. Refer lesions on eyelids.

Sebaceous hyperplasia

Hyperplastic sebaceous glands appear as tiny yellow-white papules on the nose at birth, esp. at the tip. Disappear in several wks.

Naevus sebaceous

This is a variation of sebaceous hyperplasia usually found on the head or neck as a yellow-orange coloured circumscribed or linear lesion. Leave it to resolve.

Congenital naevi

These have to be treated on an individual basis. If giant naevi, they can be dermabraded at ideally <6wks.

Benign juvenile melanoma

Brown pigmented lesions on face are usually surgically excised because of rapid growth and family concerns.

Milia

Blocked sebaceous glands, esp. on the face, are present in 50% of neonates. The firm white papules are ~I-2mm in diameter and differ from the yellowish papules of sebaceous hyperplasia. Also disappear after several weeks.

Miliaria

This is related to overheating and appears as two types:

- 'crystallina'—beads of sweat trapped under the forehead, scalp, face and trunk
- 'rubia' or 'heat rash' mainly on forehead, scalp, face and trunk Appears to be a type of folliculitis due to *Pityrosporum orbiculare*.

It is a benign condition that disappears after a few wks (usually clears by age of 6mths). If problematic:

- keep skin dry and cool (e.g. fan, air conditioner)
- · dress in loose-fitting cotton clothing
- · reduce activity
- · avoid frequent bathing and overuse of soap

Rx: salicylic acid 2%, menthol 1%, chlorhexidine 0.5% in alcohol Prevention: Ego Prickly Heat Powder

Sucking blisters

These are common on upper lip. Reassure these will settle.

Umbilical granuloma

Gently apply a caustic pencil daily for ~5d.

Breast hyperplasia

A breast 'bud' is common in most term babies and may enlarge with breastfeeding. Milk may discharge from some ('witches' milk') but reassurance is all that is required.

Frey's syndrome

The child develops a red superficial rash or discolouration on the face (upper cheeks) on eating or drinking. It is presumed to be related to auriculo-temporal nerve damage due to forceps delivery. Usually improves with age.

Common childhood skin problems

Atopic dermatitis (eczema) \(\bar{}\) 167
Head lice \(\bar{}\) 330
Henoch—Schonlein purpura \(\bar{}\) 84
Impetigo \(\bar{}\) 304
Molluscum contagiosum \(\bar{}\) 338
Nappy rash \(\bar{}\) 352
Scabies \(\bar{}\) 409
Seborrhoeic dermatitis \(\bar{}\) 410
Tinea capitis \(\bar{}\) 441
Tinea corporis \(\bar{}\) 442
Urticaria—diffuse \(\bar{}\) 22
Urticaria—papular (hives) \(\bar{}\) 461
Warts \(\bar{}\) 474

Hair disorders

Loose anagen (growing hair) syndrome

This presents as very thin wispy new growth hair usually in children <5yrs. Usually improves with age.

Traction alopecia

Traction alopecia is thinning of the hair seen in the forehead area due to very tight hair styles (e.g. hair braiding) in female children.

Trichotillomania (hair pulling)

This may occur during the night as a habit and parents may be unaware of the hair pulling. A characteristic feature is an irregular shaped area of incomplete patchy alopecia containing hairs of different length. The variable length is due to the fact that some hairs will not break with pulling while others will break at varying distances from the scalp surface. There may be associated follicular pustules or perifollicular petechiae. However, scrapings should be taken to exclude a particular type of tinea capitis (black dot ringworm) caused by *Trichophyton tonsurans*. The management is similar to thumb sucking or nail biting with a low key approach.

Localised alopecia areata

This presents as a circumscribed area with a normal 'clean' scalp surface. A pathognomic feature is the presence of 'exclamation mark' hairs at the margins (hairs ~5–10mm long wider at the top than the base). If recent or progressive treat with topical class III steroids for 12wks.

Tinea capitis

Dermatophyte infection produces an area of incomplete 'unclean' alopecia with various degrees of scaling and inflammation of the scalp surface. A boggy swelling (Kerion) can develop in severe cases. Wood's light examination will be positive in only 50% of cases. Confirm diagnosis with scalp scrapings for microscopy and culture.

Chloasma

Melasma hyperpigmentation on face due to \uparrow melanin (oestrogen from COCP and pregnancy). (\Box 334)

Chronic obstructive pulmonary disease

Chronic bronchitis and emphysema should be considered together as both these conditions usually coexist to some degree in each patient. An alternative, and preferable, term—chronic obstructive airway or pulmonary disease (COPD)—is used to cover chronic bronchitis and emphysema with chronic airflow limitation.

Factors in causation

- cigarette smoking: usu. 20/d for 20yrs
- · air pollution
- · airway infection
- · familial factors: genetic predisposition
- alpha-antitrypsin deficiency (emphysema)

Symptoms

- · onset in 5th or 6th decade
- · excessive cough
- · sputum production (chronic bronchitis)
- · dyspnoea (chronic airflow limitation)
- · wheeze (chronic bronchitis)
- · chest tightness
- susceptibility to colds

Investigations

Chest X-ray: can be normal (even with advanced disease) but characteristic changes occur late in disease.

Pulmonary function tests (spirometry is gold standard):

 peak expiratory flow rate—low with minimal response to bronchodilator (not sensitive)

- · ratio FEV_/FVC—reduced with minimal response to bronchodilator
- gas transfer coefficient of CO is low if significant emphysema Blood gases:
- · may be normal
- $P_2CO_2 \uparrow$; $P_2O_2 \downarrow$ (advanced disease)

COPD is defined as post-bronchodilator FEV $_{\rm i}$ /FVC of <0.70 (<70%) and FEV $_{\rm i}$ <80% predicted.

Management

Advice to the patient

- If you smoke, you must stop: this is the key to management.
- Avoid places with polluted air and other irritants, such as smoke, paint fumes and fine dust.
- · Go for walks in clean, fresh air.
- A warm dry climate is preferable to a cold damp place (if prone to infections).
- · Get adequate rest.
- · Avoid contact with people who have colds and flu.

Physiotherapy

Refer to a physiotherapist for chest physiotherapy, breathing exercises and an aerobic physical exercise program.

Drug therapy

Consider the use of bronchodilators (e.g. inhaled β_2 -agonists—ipratropium bromide, tiotropium) and inhaled corticosteroids, because of associated (often unsuspected) asthma. A carefully monitored trial of these drugs with FEV measurement is recommended. Fixed dose combinations of LABA and inhaled corticosteroids (Seretide or Symbicort) may be used for patient convenience.

Corticosteroids should be used routinely for acute exacerbations. Use:

• prednisolone 30-50mg (o)/d

If not tolerated orally use

 hydrocortisone roomg IV 6hrly (or equivalent dose of alternative steroid)

The indication for antibiotic treatment is:

- ↑ cough and dyspnoea plus
- ↑ sputum volume and/or purulence

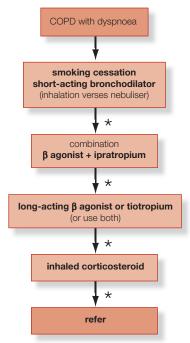
Use:

- amoxycillin 500mg (o) tds for 5d or
- doxycycline 200mg (o) statim then 100mg/d for 5d

Management guidelines

Table 22 COPD therapy according to severity of disease

	association and accounting to severity or discuss		
Stage of COPD		Treatment	
0	At risk	 Avoidance of risk factors esp. smoking Influenza & pneumococcal vaccination ?Haemophilus influenzae vaccination 	
1	Mild	Add short-acting bronchodilator	
2	Moderate	 Add one of more bronchodilators inc. long-acting bronchodilator Add pulmonary rehabilitation 	
3	Severe	Add inhaled corticosteroids	
4	Very severe	 Add long-term O₂ (if chronic respiratory failure) Consider surgical referral (?lung reduction or transplantation) 	



^{*} Poor symptom control

Figure 37 Stepwise approach to management of COPD

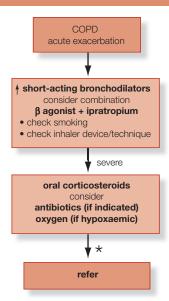


Figure 38 Management plan for acute exacerbation of COPD

Cold sores

🗅 290, Herpes simplex

Common cold (acute coryza)

This highly infectious URTI, which is often mistakenly referred to as 'the flu', produces a mild systemic upset and prominent nasal symptoms.

Common viral causes: rhinovirus, coronavirus, parainfluenza, RSV, adenovirus, influenza.

Typical clinical features

- · malaise and tiredness
- · sore, runny nose
- · sneezing
- · sore throat
- · slight fever

Other possible symptoms:

- · headache
- hoarseness
- cough

The watery nasal discharge becomes thick and purulent in ~24hrs and persists for up to a week. Secondary bacterial infection is uncommon.

Management Advice to the patient includes:

- · rest 24-48h if feeling weak
- · aspirin or paracetamol (up to 8 tabs/d for adults)
- steam inhalations using menthol or Friar's balsam for blocked nose only
- · gargle aspirin in lemon juice for sore throat (avoid aspirin in children)
- vitamin C—2g/d for 5–7d (clinical trials for this, zinc lozenges and echinacea inconclusive)
- · increase fluid intake
- · stop smoking (if applicable)
- · use cough drops or syrup for a dry, troublesome cough

Communication and consulting skills (or how to prevent litigation)

Much of the art of general practice lies in the ability to communicate. The Medical Boards and Insurance Societies list poor communication as the most important factor causing complaints from patients and relatives against doctors.

Rapport establishing techniques At first contact (and beyond):

- Greet the patient with a friendly, caring, interested manner.
- Treat the patient with respect and courtesy.
- Greet the patient with their preferred name (keep a reminder note in the history).
- · Shake hands if appropriate.
- · Be well briefed about prior consultations.
- · Make the patient feel comfortable.
- Be 'unhurried' and relaxed.
- Focus firmly on the patient.
- Use open-ended questions where possible.
- Make appropriate reassuring gestures.

Active listening Listening is the single most important skill. Listening includes four essential elements:

- · checking facts
- · checking feelings
- encouragement
- reflection

Listen with understanding, in a relaxed attentive silence. Use reflective questions, such as:

- You seem very sad today.
- You seem upset about your spouse.

- · It seems you're having trouble coping.
- · You seem to be telling me that . . .
- Your main concern seems to me to . . .

Communicating strategies in the consultation

- · Modify language.
- · Explain clearly, avoid jargon.
- · Provide clear treatment instructions.
- · Evaluate patient's understanding.
- Be non-judgmental.
- · Avoid stereotyping patients on appearance, culture etc.
- Summarise and repeat.
- · Include the patient in decision making.
- · Avoid uncertainty.
- · Avoid unnecessary personal remarks or jokes.
- · Take care on sensitive issues.
- · Try to keep to time.
- · Avoid inappropriate reassurance.
- Provide appropriate referral (if necessary) with explanation of contents of letter.
- · Ensure patient is satisfied.
- Obtain informed consent.

The physical examination

- · Carefully explain the nature and purpose beforehand.
- Take particular care with explanations before PR, PV, breast and genital examination.
- Pre-empt and explain any possible discomfort and invite the patient to inform you about this.
- If undressing is necessary, explain to what extent it is required and why.
- Due attention to modesty such as privacy screens, sheets and gowns should be given.
- · Allow the presence of a chaperone if requested.
- · Do not lock the door of the consultation room.
- · Allow cessation at any time due to any type of discomfort.

Summary

- A fundamental prerequisite for effective communication is listening; this includes not only hearing the words but understanding the meaning in addition to being sensitive and compassionate.
- Undertake the strategies of paraphrasing and summarising during the consultation to emphasise that listening is occurring and to provide a basis for defining the problems.
- Associated with listening is the observation of the nonverbal language which may in many instances be the most significant part of the communication process.

- Emphasise the need to work together (50:50) for the best outcome.
- Good communication between doctors and patients decreases the chance of dissatisfaction with professional services, even with failed therapy, and the likelihood of litigation.
- All good outcomes stem from the professional qualities of CARING and RESPONSIBILITY

Concussion

Concussion is a transient disturbance of neurological function induced by head injury and resulting in no persistent abnormal neurological signs. There may or may not be brief loss of consciousness.

Note: There is no such thing as delayed concussion or progressive deterioration due to concussion.

Table 23 Classification of concussion

Grade	Clinical features	
Mild (grade 1)	stunned or dazed sensorium clears in <60secs no post-traumatic amnesia ±loss of consciousness	
Moderate (grade 2)	stunned or dazed sensorium cloudy >60secs headache amnesia <60mins ±loss of consciousness	
Severe (grade 3)	sensorium cloudy >6osecs amnesia >6omins irritable persistent headache unsteady gait ±loss of consciousness	

Management is supportive and observation. The patient should lie down and rest for a few hours. Paracetamol may be used for headache.

Post-concussion syndrome Occasionally a person who has an episode of concussion has persistence of headaches and dizziness for a number of weeks. Poor memory and concentration and sluggish decision making indicate impaired mental capacity. Patients with this problem should be investigated with neuropsychological testing and CT scanning or MRI of the brain.

Conjunctivitis

Bacterial conjunctivitis

Pathogens: H. influenzae, S. pneumoniae, S. aureus, N. gonorrhoea.

Features

- · Gritty red eye
- · Purulent, lids stuck in morning
- · Starts in one eye, spreads to other
- · Usually bilateral purulent discharge
- · Negative fluorescein staining

Swab for smear and culture for:

- · hyperacute or severe purulent conjunctivitis
- prolonged infection
- neonates

Management (mild cases) Limit the spread by avoiding close contact with others, use of separate towels and good ocular hygiene.

Mild cases may resolve with saline irrigation of the eyelids and conjunctiva but may last up to 14 days if untreated. An antiseptic eye drop such as propamidine isethionate 0.1% (Brolene) 1–2 drops 6–8 times hrly for 5–7d can be used.

Management (more severe cases)

- chloramphenicol 0.5% eye drops 1–2 hrly for 2d, decrease to qid for 7d ± chloramphenicol 1% eye ointment nocte or
- polymyxin B sulphate 5000 U, neomycin 2.5mg, gramicidin 25 mcg per mL, (Neosporin) eye drops 1–2 drops hrly, decreasing to 6 hrly as infection improves ± Neosporin eye ointment at night

Specific organisms:

- Pseudomonas and other coliforms: use topical gentamicin and tobramycin
- · Neisseria gonorrhoea: use appropriate systemic antibiotics
- Chlamydia trachomatis: brick red follicular conjunctivitis, use oral azithromycin

Viral conjunctivitis

Features

- · Very contagious (examine with gloves)
- · Usually due to adenovirus
- Tends to occur in epidemics (pink eye)
- 2-3wk course
- Starts in one eye, spreads to other
- · Scant watery discharge
- · May be tiny pale lymphoid follicles

Preauricular lymph node
 Can perform viral culture and serology to predict epidemics.

Treatment

- Limit cross-infection by appropriate rules of hygiene and patient education.
- Treatment is symptomatic (e.g. cool compress and topical lubricants-artificial tear preparations) or salt-water bathing.
- · Do not pad.
- · Watch for secondary bacterial infection.
- · Avoid corticosteroids—prolong the infection.

Primary herpes simplex infection

- · A follicular conjunctivitis
- 50% have lid or corneal ulcers (diagnostic)
- Dendritic ulceration with fluorescein (in some)

Treatment of herpes simplex keratitis

- · Attend to eye hygiene
- Aciclovir 3% oint, 5 times/d for 14d or for at least 3d after healing
- Atropine 1% I drop, 12 hrly, for the duration of treatment will prevent reflex spasm of the pupil (specialist supervision)
- · Debridement by a consultant

Allergic conjunctivitis

Includes vernal (hay fever) conjunctivitis and contact hypersensitivity reactions.

Treatment—vernal (hay fever) conjunctivitis Tailor treatment to the degree of symptoms. Antihistamines (oral) may be required but symptomatic measures usually suffice.

- Use sodium cromoglycate 2% drops, 1–2 drops per eye 4 times/d.
- Topical antihistamine/vasoconstrictor preparations include antazoline/ naphazoline and levocabastine i drop/eye bd.
- · Topical steroids in severe cases.
- · Artificial tear preparations may give adequate symptomatic relief.

Treatment—contact hypersensitivity

- Withdraw the causative agent (e.g. cosmetics, topical eye agents).
- Apply normal saline compresses.
- Treat with naphazoline or phenylephrine if necessary.
- If not responding, refer for possible corticosteroid therapy.

Chlamydia trachomatis conjunctivitis (trachoma)

Chlamydial conjunctivitis is encountered in three common situations:

• neonatal infection (first 1-2wks)

- · young patient with associated venereal disease
- · isolated Aboriginal people with trachoma

Acute infection resembles acute bacterial conjunctivitis. Take swabs for culture and PCR testing.

Systemic antibiotic treatment:

- · Neonates: erythromycin for 3wks
- · Adults and children >6kg: azithromycin as single dose

Partner must be treated in cases of STI.

Constipation

Constipation is the difficult passage of small hard stools. It has also been defined as infrequent bowel actions or a feeling of unsatisfied emptying of the bowel. However, the emphasis is on the consistency of the stool rather than on the frequency of defecation.

Colorectal cancer must be ruled out in adults.

Alarm symptoms

- · Recent constipation in >40 years of age
- Rectal bleeding
- · Family history of cancer

Idiopathic (functional) constipation

The commonest type is simple constipation, essentially related to a faulty diet and bad habits. Avery-Jones, who defined the disorder, describes it as being due to one or more of the following causes:

- · faulty diet
- · neglect of the call to stool
- · unfavourable living and working conditions
- · lack of exercise
- travel

Management in children Differentiate from encopresis. Rule out Hirschsprung's disorder and anal fissure in infants.

- Encourage relaxed child-parent interaction with toilet training (e.g. 'after breakfast habit' training).
- Establish an empty bowel: remove any impacted faeces with microenemas (e.g. Microlax).
- · Advice for (parents of) children over 18mths:
 - drink ample non-milk fluids each day (be cautious of cows' milk)
 - use prune juice (contains sorbitol)
 - get regular exercise (e.g. walking, running, outside games or sport)

- provide high-fibre foods (e.g. high-fibre cereals, wholegrain bread, fresh fruit with skins left on where possible, dried fruits such as sultanas, apricots or prunes, fresh vegetables)
- Use a pharmaceutical preparation as a last resort to achieve regularity.
 first line: osmotic laxative, e.g. lactulose: 1–5yrs: 5mL bd

6–12yrs: 15mL bd or

Macrogel 3350 with electrolytes (Movicol) 2–12 years: I sachet Movicol half daily

> 12 years: 1 sachet Movicol daily

Consider stool softeners: paraffin oil, e.g. Parachoc; poloxamer drops

Management in adults

- · Similar principles as above
- · Patient education, inc. 'good habit'
- · Adequate exercise
- · Plenty of fluids (e.g. water, fruit juice)
- Avoid laxatives and codeine compounds
- · Optimal bulk diet
- Foods with bulk-forming properties (least to most): potato, banana, cauliflower, peas, cabbage, lettuce, apple, carrot, wheat fibre, bran
- Fruits with natural laxatives include prunes, figs, rhubarb, apricots (e.g. prune juice)
- · Cereals with wheat fibre and bran

If unsuccessful:

Bulk-producing agent (e.g. ispaghula—Fybogel, Agiolax), adults:
 I sachet in water bd or

Macrogel 3350 with electrolytes (Movicol) I-2 sachets dissolved in water once daily

or

lactulose syrup 15-30 mL (o) daily until response then 10-20 mL daily

Faecal impaction

Macrogel—up to 8 sachets for 3 days ± Microlax enema Avoid stimulant laxatives except for short sharp bursts.

Colorectal cancer

Symptoms

- · Blood in the stools
- Mucus discharge
- Recent change in bowel habits (constipation more common than diarrhoea)
- · Alternating constipation with spurious diarrhoea
- · Bowel leakage when flatus passed

Table 24 Therapeutic agents to treat constipation (with examples)

Hydrophilic bulk-forming agents psyllium mucilloid (Agiofibe, Metamucil) sterculia (Granocol, Normacol) ispaghula (Agiolax, Fybogel) methylcellulose (Cellulone) wheat bran/dextrin	Osmotic laxatives magnesium sulphate (Epsom salts) magnesium hydroxide (Milk of Magnesia) lactulose mannitol Movicol
Stimulant (irritant) laxatives senna (Senokot, sennetabs) senna with dried fruits (Nulax) cascara castor oil bisacodyl e.g. Dulcolax	Stool-softening agents liquid paraffin (Agarol) docusate (Coloxyl) glycerine suppositories sorbital/sodium compounds (Microlax)
	psyllium mucilloid (Agiofibe, Metamucil) sterculia (Granocol, Normacol) ispaghula (Agiolax, Fybogel) methylcellulose (Cellulone) wheat bran/dextrin Stimulant (irritant) laxatives senna (Senokot, sennetabs) senna with dried fruits (Nulax) cascara

- Unsatisfactory defecation (the mass is interpreted as faeces)
- Abdominal pain (colicky) or discomfort (if obstructing)
- Rectal discomfort
- · Symptoms of anaemia

Investigations

- · Faecal occult blood (FOBT)
- Colonoscopy
- Sigmoidoscopy, esp. flexible sigmoidoscopy
- Barium enema (accurate as a double contrast study) if colonoscopy unavailable

If FOBT is positive—investigate by colonoscopy or flexible sigmoidoscopy.

Screening (based on family history: Table 25)2-yrly FOBT and 5-yearly colonoscopy is recommended for those >50yrs and colonoscopy yearly or 2-yearly from 25yrs for those at high risk (or even earlier every 12 months from 10–15 years if strong history of familial polyposis) and, in addition, flexible sigmoidoscopy and rectal biopsy for those with ulcerative colitis. Has a good prognosis if diagnosed early.

Management Early surgical excision is the treatment, with the method depending on the site and extent of the carcinoma.

Table 25 Family history and lifetime risk of colorectal cancer

Family history	Lifetime risk
None: population risk	1:50
One first-degree relative >45 years	1:17
One first-degree and one second-degree relative	1:12
One first-degree relative < 45 years	1:10
Two first-degree relatives (any age)	1:6
Hereditary non-polyposis colon cancer	1:2
Familial adenomatous polyposis	1:1

Contact dermatitis

Acute contact (exogenous) dermatitis can be either *irritant* or *allergic*. Features:

- · itchy, inflamed skin
- · red and swollen
- papulovesicular

Causes Irritant contact dermatitis: caused by primary irritants (e.g. acids, alkalis, detergents, soaps).

Allergic contact dermatitis (~80%): caused by allergens that provoke an allergic reaction in some individuals only, most people can handle the chemicals without undue effect. This allergic group also includes photocontact allergens. 4–5% of population is allergic to nickel.

Common allergens

- Ingredients (fragrances) in cosmetics (e.g. perfumes, preservatives)
- Topical antibiotics (e.g. neomycin)
- · Topical anaesthetics (e.g. benzocaine)
- Topical antihistamines
- Plants (skin of mango cross-reacts with these): rhus, grevillea, primula, poison ivy
- · Metal salts (e.g. nickel sulphate, chromate)
- Dyes esp. clothing dyes
- · Hairdressing chemicals
- Glutaraldehyde (e.g. sterilising agent)
- Rubber/latex
- Resins
- Toluene sulfonamide compound resin (e.g. nail polish)
- Coral

Management

- · Determine cause with vigour and remove it
- · If acute with blistering, apply Burow's compresses

- Wash with water (only) and pat dry (avoid soap)
- Oral prednisolone for severe cases: 25–50mg/d for I–2wks, then reduce gradually over I–2wks
- · Topical corticosteroid cream
- Oral antihistamines

For chronic phase use fragrance-free moisturisers regularly, e.g. glycerol 10% in sorbolene cream.

Contraception

Combined oral contraception

Combined oral contraceptives (COC) usually contain a low-dose oestrogen and a moderate dose of progestogen.

A suitable first choice is a monophasic pill containing 30 mcg ethinyloestradiol (EO) with levonorgestrel or norethisterone (e.g. Nordette, Microgynon 30, Monofeme, Levlen ED). Cover starts immediately if active pills started on day 1 of cycle (includes switching from POP).

The high-dose monophasic (50 mcg oestrogen) should be reserved for the following situations:

- · breakthrough bleeding on low-dose COCs
- · control of menorrhagia
- · concomitant use of enzyme-inducing drugs
- · low-dose pill failure

Table 26 Overview of contraceptive methods

Method	Failure rate / 100 women
Oral contraception	
 combined (COC) 	0.5–1
 progestogen only (mini pill) 	1–3
Injectable progestogen (Depo Medrol)	0.1
Implant (Implanon)	<0.06
IUCD	0.4-2
Progestogen-containing IUCD	0.1
Vaginal ring	1-3
Barrier methods	
 diaphragm (with spermicide) 	15
• condoms	10
Sterilisation	
female	0.02
male	0.15
Natural rhythm methods	3-25
Coitus interruptus	20–25

Acne For women with acne (not on COC), start with a less androgenic progestogen (e.g. Diane 35 ED, Marvelon). Education and counselling are very important for the woman starting the pill.

Important advice for the patient

- · No break from the pill is necessary.
- Drugs that interact with the pill include vitamin C, antibiotics, griseofulvin, rifampicin and anticonvulsants (except sodium valproate). Warfarin and oral hypoglycaemic requirements may change for those starting the pill.
- Diarrhoea and vomiting may reduce the effectiveness of the pill.
- · Yearly return visits are recommended.
- The pill can be safely used up to age 50.

The 7-day rule for the missed or late pill (>12h late)

- The golden rule is 'just keep going'.
- Take the forgotten pill as soon as possible, even if it means taking 2 pills in one day. Take the next pill at the usual time and finish the course.
- If you forget to take it for more than 12hrs after the usual time there
 is an increased risk of pregnancy so use another contraceptive method
 (such as condoms) for 7d.
- If these 7d run beyond the last hormone pill in your packet then miss out on the inactive pills (or 7-d gap) and proceed directly to the first hormone pill in your next packet. You may miss a period. (At least 7 hormone tablets should be taken.)

New rules for missed pills For 1 or $2 \times 30-35$ mcg EO pills or 1×20 mcg EO pills

- take the most recent missed pill ASAP
- · continue taking remaining pills as usual

No additional contraception or EC required.

For $\ge 3 \times 30-35$ mcg EO pills or 2×20 mcg EO pills

 as for previous pills but use condoms or abstinence until pills taken for 7 consec. days

Other rules:

- If pills missed in wk $\scriptstyle\rm I$ (days $\scriptstyle\rm I-7$) and unprotected sex, consider EC.
- If pills missed in wk 3 (days 15–21), finish pills in current pack and start new pack (omit pill-free interval).

Progestogen-only contraceptive pill (POP)

The POP is perhaps an underused method of contraception, although it is not as efficacious as the COC.

The two common formulations are: levonorgestrel 30mcg/d and norethisterone 350mcg/d.

POP must be taken in the same 3-h time period. If delayed >3h or pill missed, coninue taking as usual or take precautions. Best taken in morning if intercourse usu. in evening.

Emergency contraception (EC)

Available methods (note: must be used within 72h, ideally within 24h or less.)

- Postinor-2: one 750 mcg levonorgestrel plus one 12h later. Failure rate: 1.1%.
- Danazol 200 mg tabs (e.g. 2 initially and repeated 12h later). Failure rate 4.6%.
- Insertion of copper IUCD

Postponing a period: one of 2 methods

- Prescribe norethisterone 5mg tds for 3d prior to expected period and stop when convenient (period resumes after 2–3d) or
- If taking COC, continue taking the hormone tabs (skip inactive pills) until the end of the next period.

Vaginal ring

The NuvaRing is inserted in the vagina once a month (in the first 5 days after a period) and removed after 21 days with a break of 7 days.

Etonogestrel implant (Implanon)

This is a subdermal contraceptive implant of a 3 year system consisting of a single rod of the progestogen, etonogestrel.

Intrauterine contraceptive devices (IUCDs)

The two common types are:

Copper devices e.g. Multiload-CU3751 (span 5–10 years) Progestogen e.g. Mirena (span 5 years)

Cough

General pitfalls

- Attributing cough due to bronchial carcinoma in a smoker to 'smoker's cough'.
- Overlooking TB, esp. in the elderly, by equating symptoms to old age, bronchitis or even smoking.
- Overlooking the fact that bronchial carcinoma can develop in a patient with other pulmonary conditions such as chronic bronchitis.
- Being slow to order a chest X-ray.

Table 27 Cough diagnostic strategy model (modified)

Q. Probability diagnosis

A. Upper respiratory infection

Postnasal drip Smoking

Acute bronchitis
Chronic bronchitis

Q. Serious disorders not to be missed

A. Cardiovascular

left ventricular failure
 Severe infections

tuberculosis

pneumonia

influenza/SARS

lung abscess

· HIV infection

Neoplasia

· carcinoma of lung

Asthma Cystic fibrosis Foreign body Pneumothorax

Q. Pitfalls (often missed)

A. Gastro-oesophageal reflux (nocturnal)

Smoking (children)
Bronchiectasis

Whooping cough

Interstitial lung disorders

Sarcoidosis

Drugs (e.g. ACE inhibitors,

salazopyrin)

Red flag pointers for cough

- age >50 y
- · smoking history
- · history of asbestos exposure
- persistent cough
- overseas travel
- TB exposure
- haemoptysis
- · unexplained weight loss
- dyspnoea

Cough in children

Common causes are:

- asthma
- · acute URTIs
- · allergic rhinitis
- recurrent viral bronchitis

Disorders not to be missed are:

- asthma
- · bronchiolitis
- · cystic fibrosis
- · inhaled foreign body
- · tracheo-oesophageal fistula

Several clinicians describe the catarrhal child syndrome as the commonest cause of cough. This refers to children who develop a postnasal drip following acute respiratory infection and allergic rhinitis. Most children with recurrent cough do not have asthma.

Bronchial carcinoma

Lung cancer accounts for 28% of cancer deaths in men and 24% of cancer deaths in women (rapidly rising) in the US, with cigarette smoking being the most common cause of lung cancer in both sexes. It is classified simply as small cell cancer (deadly with poor prognosis) and non-small cell cancer (NSCLC: e.g. SCC, adenocarcinoma) where curative resection is possible.

Clinical features

- Most present at 50–70yrs
- Only 10-25% asymptomatic at time of diagnosis
- · If symptomatic—usually advanced and not resectable

Local symptoms

- · cough (42%)
- chest pain (22%)
- · wheezing (15%)
- haemoptysis (7%)
- dyspnoea (5%)

General: anorexia, malaise; weight loss (unexplained)

Others: unresolved chest infection; hoarseness; symptoms from metastases

Investigations

- · Chest X-ray
- · Computerised tomography
- Fibre-optic \pm fluorescence bronchoscopy
- · PET scanning (to exclude metastatic disease)

No proven benefit of screening for asymptomatic people.

Management

- Staging of cancer is pivotal to management.
- Refer for possible surgical resection (NSCLC).

Bronchiectasis

Clinical features

- · chronic cough worse on waking
- profuse purulent offensive yellow-green sputum (advanced cases)

Investigations

- · Chest X-ray (normal or bronchial changes)
- · Sputum examination
 - for resistant pathogens
 - to exclude TB
- · CT scan: can show bronchial wall thickening
- Bronchograms: very unpleasant and used only if diagnosis in doubt or possible localised disease amenable to surgery (rare)

Management

- · Explanation and preventive advice
- Postural drainage (e.g. lie over side of bed with head and thorax down for IO-20mins 3 times/d)
- Antibiotics according to organism—it is important to eradicate infection to halt progress of the disease. Initially use amoxycillin 500mg (o) tds or roxithromycin for 2–3wks
- · Bronchodilators if evidence of bronchospasm

Tuberculosis

Pulmonary tuberculosis may be symptomless and detected by mass X-ray screening. It may be primary, post-primary (reactivation of latent TB) or miliary.

See Fig. 39.

Respiratory symptoms

- · cough
- sputum: initially mucoid, later purulent
- · haemoptysis
- · dyspnoea (esp. with complications)
- · pleuritic pain

General clinical features (usually insidious)

- · anorexia
- fatigue
- · weight loss
- fever (low grade)
- · night sweats

Physical examination

- May be no respiratory signs or may be signs of fibrosis, consolidation or cavitation (amphoric breathing)
- · Finger clubbing

Investigations

- · Chest X-ray
- · Micro and culture sputum (for tubercle bacilli)
- ESR/CRP
- Tuberculin skin (Mantoux) test (misleading if previous BCG vaccination)
- Interferon gamma release assay (IGRA)

Management Tuberculosis is a notifiable disease and must be reported to state (and local) health departments. Hospitalisation for the initial therapy of pulmonary TB is not necessary in most patients. Monthly follow-up is recommended, including sputum smear and culture. Multiple drug therapy

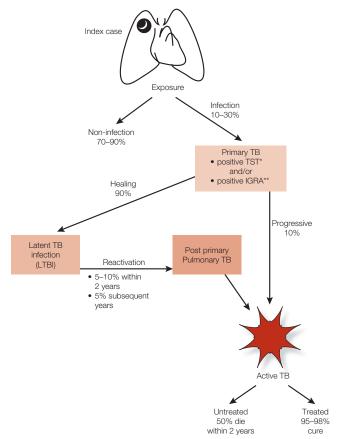


Figure 39 Natural history of TB infection
Based on WHO algorithm and Dr Grant Jenkin (personal communication).

* TST = tuberculin skin test

is initiated primarily to guard against the existence and/or emergence of resistant organisms. (MDR-TB is a huge issue)

Standard initial therapy consists of rifampicin + isoniazid + pyrazinamide + ethambutol daily for at least 2 months, followed by rifampicin + isoniazid for 4 months if the organism is susceptible to these drugs. If isoniazid resistance is suspected, ethambutol or streptomycin (with care) is added.

^{**} IGRA = interferon gamma release assay

Symptomatic treatment of cough

Symptomatic treatment of cough should be reserved for patients who have acute self-limiting causes of cough, esp. an acute viral infection. The recommended mixture should be tailored to the patient's individual requirements. These mixtures should be used only in the short term, e.g.: cough suppressant for dry cough

- pholcodine Img/mL, IO-I5mL (o) 3-4 times/d or
- · codeine 5mg/mL, 5mL (o) 3-6 hrly

Counselling skills

The GP is ideally situated to be an effective counsellor—based on the therapeutic effect of the doctor. Counselling is not simply giving information or advice but is 'the therapeutic process of helping a patient to explore the nature of his or her problem in such a way that he or she determines decisions about what to do, without direct advice or reassurance from the counsellor'. It therefore facilitates insight and understanding. It involves all the principles outlined in communication skills (\(\Delta\) 140-3).

A useful model is the PLISSIT model which stands for:

- · P-permission giving
- · LI—limited information
- SS—specific suggestion
- IT—intensive therapy

Characteristics of the effective counsellor have been demonstrated to be genuineness, non-possessive warmth for the patient, fostering confidentiality and trust, and accurate and empathic understanding.

Some counselling strategies

- Provide guidance and facilitation to allow the patient to gain insight.
- Use appropriate 'gentle' confrontation to allow self-examination.
- Help patients to explore their own situation and express emotions such as anxiety, guilt, fear, anger, hostility, hurt feelings.
- Explore possible feelings of insecurity and allow free expression of such feelings.
- Ask key searching questions, e.g.:
 - What do you think deep down is the cause of your problem?
 - If you could change anything in your life, what would it be?
 - How do you think your problem should be treated?
- Provide 'okay' specific suggestions, e.g.:
 - I wonder if your basic problem is that you are a perfectionist.
 - Many people in your situation feel guilty about something which may even be trivial and need to feel forgiven.

Effective counselling comes from commitment, experience and a genuine caring compassionate feeling for patients and their ethos. If one feels out of one's depth then immediate referral to an expert is important.

Cognitive behaviour therapy (CBT)

Cognitions are thoughts, beliefs or perceptions. CBT involves the process of knowing or identifying, understanding or having insight into these thought processes. The therapy then aims to change behaviour by teaching patients new ways of positive thinking. Patients need to be able to recognise their own negative cognitions, including their anxieties and worries.

Key rules to counselling

- The patient must leave feeling better.
- 2 Provide insight into their illness and/or behaviour.
- 3 Address any feelings of guilt (people must feel okay or forgiven about any perceived transgression).

Court appearance

The GP is often called to be a witness in court, mainly as an expert. Your duty is to assist the court and be impartial and factual. It can be a difficult experience and the following guidelines can help.

- Dress smartly (e.g. suit and tie for men, skirt and jacket for women).
- · Simply give oral evidence based on fact.
- Keep answers to questions 'to the point', brief and simple—don't 'pad', give uncalled for opinions or 'wax lyrical'.
- Most answers can be given simply as 'yes' or 'no', etc.
- · Always keep to facts—you are under oath to be truthful.
- Look at the judge or magistrate when giving evidence (esp. when responding to an uncomfortable question). Address them as 'sir' or 'ma'am'.
- Be well prepared and anticipate possible directions of proceedings.
- · If uncertain about a question, ask for clarification.
- Bring along relevant documents—ensure any patient histories are well prepared and complete.
- · If you do not know the answer, say so.
- · Avoid showing bias in your approach.
- · Be humble and conservative but also authoritative and 'in control'.

'Cracked' skin

Cracked and dry lips

- Use a lip balm with sunscreen (e.g. Sunsense 15 lip balm).
- · Women can use a creamy lipstick.
- · Vaseline helps.

Cracked hands and fingers

Usually associated with atopic dermatitis or very dry skin. Hand protection:

- Avoid domestic or occupational duties that involve contact with irritants and detergents.
- · Wear protective work gloves: cotton-lined PVC gloves.
- Use soap substitutes (e.g. Cetaphil lotion, Dove, Neutrogena).
- Apply 2–5% salicyclic acid and 10% liq picis carb in white soft paraffin ointment or Norwegian formula Hand Cream or
- Corticosteroid ointment: class II-III (e.g. Advantan fatty ointment) with night-time plastic occlusion

Cracked heels

- Soak feet for 30mins in warm water containing an oil such as Alpha-Keri or Derma Oil.
- Pat dry, then apply a cream such as Nutraplus (10% urea) or Eulactol heel balm.
- For severe cases use sorbolene cream with 20% glycerol or 30% urea (test skin sensitivity first).

Cramps (nocturnal cramps in legs)

Precautions: treat cause (if known), e.g. tetanus, drugs, sodium depletion, hypothyroidism.

Physical

- Muscle stretching and relaxation exercises (see Fig. 40): stretch calf for 3mins before retiring then rest in chair with the feet out horizontally to the floor with cushion under tendoachilles (romins)
- · Massage and heat to affected muscles
- Try to keep bedclothes off feet and lower part of legs—use a doubled-up pillow at the foot of the bed
- · Tonic water before retiring may help

Drugs

Usually unsatisfactory but consider

- Magnesium Co tab (e.g. Crampeze®) or
- Biperiden 2-4mg nocte

Cranial nerves (see 1 181-2)

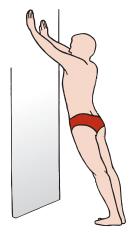


Figure 40 Leg-stretching exercise for cramp

Croup

Clinical features

- 6mths to 6yrs, occasionally older
- Loud inspiratory (increased if upset) harsh brassy cough
- Viral cause—mostly parainfluenza I

Treatment

Grade 1 croup Barking cough, stridor at rest without chest retraction, hoarse voice:

- · manage at home by keeping the child as calm as possible
- · avoid steaming measures but humid atmosphere helpful
- · consider oral steroids, e.g. prednisolone oral liquid

Grade 2 croup Inspiratory stridor at rest with sternal and chest wall retraction:

- admit to hospital (e.g. emergency department)
- · cool humidified air
- oral steroids: dexamethasone 0.15-0.3mg/kg or prednisolone (tablets or oral solution) 1mg/kg (2-3 doses) and/or (for children ≥2) budesonide 100mcg × 20 puffs or 2mg nebulised
- · nebulised adrenaline—if poor response to steroids
- observe for at least 4hrs

Grade 3 croup Severe croup (marked respiratory distress with use of accessory muscles, patient restless and agitated, pallor, cyanosis, tachycardia and exhaustion, i.e. impending airway obstruction):

- · nurse in intensive care
- oxygen
- adrenaline is 1st-line therapy:
 nebulised adrenaline 1:1000 solution 0.5mL/kg/dose (to max. 5mL)
 (beware possible rebound effect after 2–3hrs—child must be observed)
 Note: Can use 4–5 ampoules of 1:1000 solution in a nebuliser run with
 O 8 L/min. Repeat dose if no response in 10mins.
- dexamethasone o.2mg/kg IV or o.6mg/kg IM followed by oral steroids
- · have facilities for artificial airway
- · may need endotracheal intubation for 48hrs

There is no place for cough medicine or antibiotics.

Indications for steroids in croup

- stridor
- · respiratory distress
- age <2 yrs

Crying baby

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| D |

Dandruff

Dandruff (pityriasis capitis) is mainly a physiological process, the result of normal desquamation of scale from the scalp. It is most prevalent in adolescence and worst around the age of 20.

Treatment Shampoos: zinc pyrithione (e.g. Dan-Gard, Head and Shoulders) or selenium sulfide (e.g. Selsun)

Method: massage into scalp, leave for 5 mins, rinse thoroughly twice wkly

Persistent dandruff

Persistent dandruff with severe flaking and itching indicates seborrhoeic dermatitis *or* psoriasis in which the scalp skin feels lumpy.

Treatment Shampoos: coal tar + salicylic acid compound (Sebitar) shampoo *or* Ionil T plus shampoo

Method: as above, followed by Sebi Rinse or ketoconazole (Nizoral) shampoo

If persistent, esp. itching, and Nizoral shampoo ineffective, use a corticosteroid (e.g. betamethasone scalp lotion).

Deafness and hearing loss

Deafness is defined as impairment of hearing, regardless of its severity. It is a major community health problem requiring a high index of suspicion for diagnosis, esp. in children. Deafness may be conductive, sensorineural (SND) or a combination of both (mixed).

- Deafness occurs at all ages but more common in the elderly—50%
 80 yrs could be helped by a hearing aid.
- The threshold of normal hearing is from o to 20 dB, about the loudness of a soft whisper.
- · Degrees of hearing impairment
 - mild = loss of 20–40 dB (soft spoken voice is 20 dB)
 - moderate = loss of 40–70 dB (normal spoken voice is 40 dB)
 - severe = loss of 70–90 dB (shout)
 - profound = loss of over 90 dB
- People who have worked in high noise levels (>85 dB) are more than twice as likely to be deaf.
- · There is a related incidence of tinnitus with deafness.

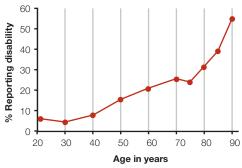


Figure 41 Prevalence of hearing problems with increasing age

Deafness in children

Deafness in childhood is relatively common and often goes unrecognised. A mother who believes that her child may be deaf is rarely wrong in this suspicion.

Screening The aim of screening should be to recognise every deaf child by the age of 8–10 mths—before the vital time for learning speech is wasted. Optimal screening times:

- 8–9 mths (or earlier)
- · school entry

No child is too young for audiological assessment. Informal office tests are inadequate to exclude hearing loss.

Otosclerosis

Features

- · A progressive disease
- Develops in the 20s and 30s
- · Family history (autosomal dominant)
- · Female preponderance
- Affects the footplate of the stapes
- Conductive hearing loss
- · SND may be present
- Impedance audiometry shows characteristic features of conductive loss with a mild sensorineural loss

Management

- Stapedectomy (approx. 90% effective)
- Hearing aid (less effective alternative)

Table 28 Deafness and hearing loss: diagnostic strategy model (modified)

Q. Probability diagnosis	 meningitis
A. Impacted cerumen	 syphilis
Serous otitis media	Perforated tympanic membrane
Otitis externa	Cholesteatoma
Congenital (children)	Perilymphatic fistula (post-
Presbyacusis	stapedectomy)
Q. Serious disorders not to be missed	Q. Pitfalls (often missed)
A. Neoplasia	A. Foreign body
acoustic neuroma	Temporal bone fracture
	- 1 · ·

- temporal lobe tumours (bilateral)
- otic tumours Severe infections generalised infections (e.g. mumps)

Otosclerosis Barotrauma

Noise-induced deafness Rarities

Paget's disease of bone

Noise-induced hearing loss

Features

- Onset of tinnitus after work in excessive noise
- · Speech seems muffled soon after work
- Temporary loss initially but becomes permanent if noise exposure continues
- · High-frequency loss on audiogram

Sounds exceeding 85 dB are potentially injurious to the cochlea, esp. with prolonged exposures. Common sources of injurious noise are industrial machinery, weapons and loud music.

Presbyacusis

- High frequency hearing loss of ↑ age
- A bilateral progressive SND
- · Usually associated with tinnitus
- · Intolerance to very loud sounds
- Difficulty picking up high frequency consonants (e.g. 'f' and 's')
- Begin to speak loudly and may withdraw socially

Management Referral for evaluation for an amplified hearing aid.

Hearing aids Hearing aids are most useful in conductive deafness. This is due to the relative lack of distortion, making amplification simple. In SND the dual problem of recruitment and the hearing loss for higher frequencies may make hearing aids less satisfactory.

Depression

Depressive illness, which is probably the greatest masquerade of general practice, is one of the commonest illnesses in medicine and is often confused with other illnesses.

Many episodes of depression are transient and should be regarded as normal but 10% of the population have significant depressive illness.

Major depression

DSM-IV-TR diagnostic criteria for major depression At least five of the following symptoms for 2 wks (criterion 1 or 2 essential)

- I Depressed mood (the essential feature)
- 2 Loss of interest or pleasure
- 3 Significant appetite or weight loss or gain (usu. poor appetite)
- 4 Insomnia or hypersomnia (usually early morning waking)
- 5 Psychomotor agitation or retardation
- 6 Fatigue or loss of energy
- 7 Feelings of worthlessness or excessive guilt
- 8 Impaired thinking or concentration; indecisiveness
- 9 Suicidal thoughts/thoughts of death or suicide

Minor depression

Minor depression is basically a condition where fluctuations of symptoms occur with some vague somatic symptoms and a transient lowering of mood that can respond to environmental influences. The diagnosis is based on a total of 2–4 symptoms from the above list, inc. 1 & 2. These patients usually respond in time to simple psychotherapy, reassurance and support.

Depression in the elderly

Depression can have bizarre features in the elderly and may be misdiagnosed as dementia or psychosis. Agitated depression is the most frequent type of depression in the aged. Features may include histrionic behaviour, delusions and disordered thinking.

Depression in children

Sadness is common in children but depression also occurs and is characterised by feelings of helplessness, worthlessness and despair. Parents and doctors both tend to be unaware of depression in children.

Major depression in children and adolescents may be diagnosed using the same criteria as for adults, namely loss of interest in usual activities and the presence of a sad or irritable mood, persisting for 2 wks or more.

Management (adults)

Important considerations from the outset are:

- Is the patient a suicide risk?
- Does the patient require inpatient assessment?
- Is referral to a specialist psychiatrist indicated?

If the symptoms are major and the patient appears in poor health or is a suicide risk, referral is appropriate.

The basic treatments are:

- Psychotherapy, inc. education, reassurance and support. All patients
 require minor psychotherapy. More sophisticated techniques, such
 as cognitive behavioural therapy, can be used for selected patients.
 Cognitive therapy involves teaching patients new ways of positive
 thinking, which have to be relevant and achievable for the patient.
- Pharmacological agents (monotherapy is preferable)
- Electroconvulsive treatment

Note: Reassurance and support are needed for all depressed patients.

Useful guidelines

- Mild depression: psychotherapy alone may suffice but keep medication in mind
- Moderate to severe depression: psychotherapy plus antidepressants
- · Severe to morbid depression: cease drugs, ECT then antidepressants

Recommended reading for patients Rowe D. Depression: the way out of prison. Routledge and Kegan Paul, London, 1995. Gordon Parker. Dealing with Depression. Allen & Unwin, Sydney, 2002.

Antidepressant medication

The initial choice of an antidepressant depends on the age and sex of the patient and the side-effect profile.

First-line therapy The following are all first-line drugs, with the SSRIs and other newer agents being preferred.

Selective serotonin reuptake inhibitors (SSRIs)

- I Fluoxetine 20 mg (o) mane.
 - · This dose is usually sufficient for most patients.
 - If no response after 2-3 wks, ↑ by 20 mg at 2-3 wk intervals to 40-80 mg (o)/d in divided doses.
- 2 Sertraline and fluvoxamine, 50 mg (o)/d, starting dose: can increase up to 200 mg /d.
- 3 Paroxetine and citalopram: 20 mg (o) mane; can increase by 10 mg/d every 2-3 wks to 60 mg/d.
- 4 Escitalopram: 10 mg/d, up to 20 mg

All SSRIs can be increased every 14 days if necessary.

These new drugs have a similar efficacy profile to the tricyclics. There are definite differences between these SSRIs. They should not be used with MAOIs or the tricyclics.

Moclobemide

Moclobemide 150 mg (o) bd

If no response after 2–3 wks, increase by $50\,\text{mg/d}$ to max. $300\,\text{mg}$ (o) bd.

- This is a reversible MAOI which is less toxic than the irreversible MAOIs.
- It has minimal interaction with tyramine-containing foodstuffs, so that no dietary restrictions are necessary.

Serotonin noradrenaline reuptake inhibitors (SNRIs)

Venlafaxine, desvenlafaxine, duloxetine. Recommended for major depression where other therapy is inappropriate.

Duloxetine is also recommended for diabetic peripheral neuropathic pain.

Selective noradrenaline reuptake inhibitor

Reboxetine: adult dose 4 mg (o) bd, ↑ if required to 10 mg/d

Serotonin modulator

Mirtazapine: starting dosage 15 mg (o) nocte; average dose 30–45 mg to maximum 60 mg/d.

Second-line therapy

Tricyclic antidepressants

- I Amitriptyline and imipramine
 - · the first generation tricyclics
 - · the most sedating: valuable if marked anxiety and insomnia
 - strongest anticholinergic side-effects (e.g. constipation, blurred vision, prostatism)
- 2 Nortriptyline, doxepin, dothiepin, clomipramine, trimipramine
 - · less sedating and anticholinergic activity
 - nortriptyline is the least hypotensive of the tricyclics

Dosage: 50–75 mg (o) nocte, increasing every 2–3 d to 150 mg (o) nocte by day 7

If no response after 2-3 wks, increase by 25-50 mg/d at 2-3 wk intervals (depending on adverse effects) to 200-250 mg (o) nocte. Trial for 6 wks.

Tetracyclic antidepressants

Mianserin 30–60 mg (o) nocte ↑ to 60–120 mg (o) nocte by day 7.

Notes about antidepressants

- There is no one ideal antidepressant.
- The SSRIs are now the first line drugs of choice. Other first line antidepressants are the SNRIs meclobemide and mirtazapine.
- · Tricyclics can be given once daily (usu. in the evening).
- There is a delay in onset of action I-2 wks after a therapeutic dose (= I50 mg imipramine at least) is reached.
- Each drug should have a clinical trial at an adequate dose for at least 4–6 wks before treatment is changed.
- Swapping from one agent to another, inc. between SSRIs in those not responding, can be beneficial.
- · Do not mix antidepressants.

- · Consider referral if there is a failed (adequate) trial.
- Full recovery may take up to 6 wks or longer (in those who respond).
- Continue treatment at maintenance levels for at least 6–9 mths. There
 is a high risk of relapse. Lifelong treatment may be necessary.
- MAOIs are often the drugs of choice for neurotic depression or atypical depression.

Beware of the dangerous serotonin syndrome (agitation, nausea, headache, tremor, tachycardia etc.) when switching between antidepressants, esp. with SSRI use. It is mainly due to an inadequate 'washout period'—2 wks for most and 6 wks for fluoxetine.

Electroconvulsive therapy (ECT)

ECT is safe, effective and rapidly acting. It is anticipated that the new generation treatment units will improve the management of major depression.

The usual course is 6-8 treatments over 3 wks. Tricyclic antidepressants can be used in combination with ECT and after ECT to prevent relapse.

Transcranial magnetic stimulation is an experimental procedure being evaluated as a less invasive alternative.

Dermatitis/eczema

The terms 'dermatitis' and 'eczema' are synonymous and denote an inflammatory epidermal rash, acute or chronic, characterised by vesicles (acute stage), redness, weeping, oozing, crusting, scaling and itch.

Atopic dermatitis (eczema)

Criteria for diagnosis

- itch
- · typical morphology and distribution
- dry skin
- history of atopy
- · chronic relapsing dermatitis

Distribution The typical distribution of atopic dermatitis changes as the patient grows older. In infants the rash appears typically on the cheeks of the face, the folds of the neck and scalp. It may then spread to the limbs and groin. The change from infancy to older children is presented in the figures overleaf.

Treatment Advice to parents of affected children:

- Avoid soap. Use a bland bath oil in the bath and aqueous cream as a soap substitute.
- · Older children should have short, tepid showers.
- Avoid rubbing and scratching—use gauze bandages with hand splints for infants.

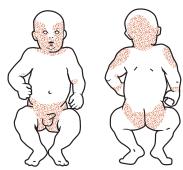


Figure 42 Relative distribution of atopic dermatitis in infants

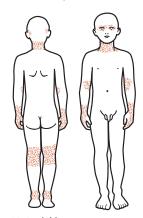


Figure 43 Atopic dermatitis in children

- · Avoid sudden changes of temperature.
- Wear light, soft, loose clothes, preferably made of cotton. Cotton clothing should be worn next to the skin.
- · Avoid wool next to the skin.
- · Avoid dusty conditions and sand, esp. sandpits.
- Avoid contact with people with 'sores', esp. herpes.
- Consider dust mite reduction strategies: premium grade dust mite covers for bedding, wash linen in hot water > 55°C and consider replacing carpets and fabrics on furniture.

Medication

Mild atopic dermatitis

- · Soap substitutes, such as aqueous cream
- Emollients: apply twice daily to dry skin, choose from

- aqueous cream
 sorbolene alone or with 10% glycerol
- QV cream (esp. winter) or lotion (summer only)
- paraffin creams (e.g. Dermeze), esp. infants
- paramn creams (e.g. Dermeze), esp. in
- bath oils (e.g. Alpha-Keri, QV)
- 1% hydrocortisone (if not responding to above), once or twice daily short term for flares of facial dermatitis

Moderate atopic dermatitis

- · As for mild
- · Topical corticosteroids (twice daily)
 - vital for active areas
 - moderate strength (e.g. fluorinated, to trunk and limbs) once or twice daily
 - weaker strength (e.g. 1% hydrocortisone, to face and flexures)
- Non-steroidal alternative is pimecrolimus cream, bd, use for flares of facial dermatitis then cease
- · Oral antihistamines at night for itch

Severe dermatitis

- · As for mild and moderate eczema
- · Potent topical corticosteroids to worse areas (consider occlusive dressings)
- · Consider hospitalisation
- Systemic corticosteroids (rarely used)

Weeping dermatitis (an acute phase) This often has crusts due to exudate. Burow's solution diluted to 1:20 or 1:10 can be used to soak affected areas.

General points of dermatitis management

Acute weeping \rightarrow wet dressings (saline or Burow's)

Acute, non-weeping \rightarrow creams

Dry, scaly lesions \rightarrow ointments, with or without occlusion

Lichenified → ointments under occlusion

Infection \to antibiotics: topical, e.g. mupirocin 2%; if poor response \to oral ABs Moisturising \to use lotions not creams

Other types of atopic dermatitis Nummular (discoid) eczema

- Chronic, red, coin-shaped plaques
- · Crusted, scaling and itchy
- · Mainly on the legs, also buttocks and trunk

Treatment as for classic atopic dermatitis.

Pityriasis alba

- These are white patches on the face of children and adolescents.
- Can occur on the neck and upper limbs, occasionally on trunk.
- Full repigmentation occurs eventually.

Treatment

- Reassurance
- · Simple emollients
- · Restrict use of soap and washing
- May prescribe hydrocortisone ointment (rarely necessary)

Lichen simplex chronicus

- · Circumscribed thick plaques of lichenification
- · Caused by repeated rubbing and scratching of previously normal skin
- · Due to chronic itch of unknown cause

Treatment

- · Explanation
- · Refrain from scratching
- Fluorinated corticosteroid ointment with plastic occlusion or tar paste (e.g. liquor picis carbonis 4%, Lassar's paste to 100%)

Dyshydrotic dermatitis (pompholyx)

- · Itching vesicles on fingers
- May be larger vesicles on palms and soles
- · Commonly affects sides of digits and palms
- · Often triggered by high humidity

Treatment

- · Wet dressings/soaks if severe
- · As for atopic dermatitis
- Potent fluorinated corticosteroids topically use under occlusion (e.g. damp cotton glove)
- Oral corticosteroids for 3 weeks may be necessary

Asteatotic dermatitis ('winter itch')

This is the common, often unrecognised, very itchy dermatitis that occurs in the elderly, with a dry 'crazy paving' pattern, esp. on the legs. It is a form of eczema that occurs in the elderly subjected to considerable scrubbing and bathing. Other predisposing factors include low humidity (winter, central heating) and diuretics.

Treatment

- Avoid scrubbing with soaps
- · Use aqueous cream and a soap substitute
- · Apply topical steroid diluted in white soft paraffin

Dermatitis of hands

'Cracked' hands, 🗅 158

Diabetes mellitus

The classic symptoms of uncontrolled diabetes are:

- · polyuria (every hr or so)
- · polydipsia
- loss of weight (type I)
- · tiredness and fatigue
- · characteristic breath
- · propensity for infections, esp. of the skin and genitals

Note: For every diagnosed diabetic there is at least one undiagnosed diabetic.

Diagnosis

- Fasting venous plasma glucose ≥ 7.0 mmol/L
- Random venous plasma glucose ≥ 11.1 mmol/L
- · In symptomatic patients, a single elevated reading
- In asymptomatic or mildly symptomatic patients, the diagnosis is made on two separate elevated readings, either a fasting test or 2 or more hrs postprandial (or the 2 values from an oral glucose tolerance test).

If random or fasting VPG lies in uncertain range (5.5–11.0 mmol/L) in either a symptomatic patient or one with risk factors, perform an OGTT.

Diagnostic Guidelines			
Fasting Serum Glucose	2 Hour Serum Glucose	Interpretation	
< 5.5 mmol/L	< 7.8 mmol/L	Normal glucose metabolism	
> 7.0 mmol/L	> 11.1 mmol/L	Diabetes mellitus	

Management The three key tasks:

- I Achieve strict glycaemic control (HbA1c ≤7%)
- 2 Achieve BP \leq 130/80 mmHg (\leq 125/75 if proteinuria)
- 3 Achieve control of blood cholesterol: <4.0 mmol/L Both type I (IDDM) and type 2 (NIDDM):
- patient education, reassurance and support
- · consider diabetic educator, dietitian
- · dietary control vital
- · exercise also very important
- · referral to ophthalmologist
- · Goals of management (Table 29)

Table 29 Goals of management of Diabetes Mellitus

Table 29 Goals of management of Diabetes Mellitus			
Fasting blood glucose	4.0–6.0 mmol/L		
HbAIC %	< 7.0%		
Cholesterol	< 4.0 mmol/L		
LDL cholesterol	< 2.5 mmol/L		
HDL cholesterol	> 1.0 mmol/L		
Blood pressure			
Without proteinuria	< 130/80 mm/Hg		
With proteinuria (1g/day)	< 125/75 mm/Hg		
ВМІ	< 25		
Urinary albumin excretion			
Timed overnight collection	< 20 µg/min		
Spot collection	< 20 mg/L		
Albumin: Creatinine Ratio			
Men	< 2.5 mg/mmol		
Women	< 3.5 mg/mmol		
Cigarette consumption	Nil		
Alcohol intake			
Men	≤ 2 standard drinks/day (≤ 20 g/day)		
Women	≤ 1 standard drink/day (≤ 10 g/day)		
Excercise	At least 30 mins moderate excercise 5 or more times a week (total 150 mins/wk)		

Diet

- Type I patients often require three meals and regular snacks each day.
- Type 2 patients usually require less food intake and restriction of total intake.

Principles of dietary management

- Keep to a regular nutritious diet (follow GI index foods)
- · Achieve ideal body weight
- · Reduce calories (kilojoules), ie added sugar, dietary fat
- Increase proportions of vegetables, fresh fruit, cereal foods

Type 1 diabetes mellitus

Preferred insulin regimens. (Fig. 44)

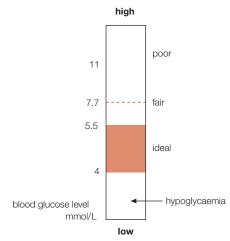


Figure 44 Control guidelines for diabetic management

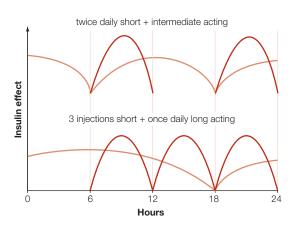


Figure 45 Illustration of time course of insulin injections regimens

- 1 4 injections per day (basal-bolus): short-acting or neutral (regular) insulin before each meal with an intermediate or long acting insulin at bedtime.
- 2 2 pre-mixed injections per day. 'split and mix' of short-acting and long-acting insulin (e.g. Mixtard or Humulin 30/70), twice daily before breakfast and before the evening meal (the most common).
- 3 3 injections per day: short-acting insulin before breakfast and lunch and long-acting before evening meal (Figure 45).

Shared care with an endocrinologist is recommended.

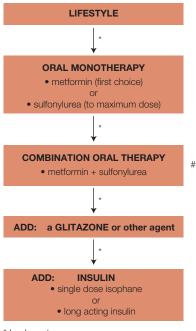
Type 2 diabetes mellitus

- First-line treatment (esp. if obese):
 - diet therapy
 - exercise program (aim for 20-30 mins/d)

Most symptoms improve dramatically within I-4 wks on diet and exercise alone.

If unsatisfactory control persists after 3–6 mths, consider adding one of the oral hypoglycaemic agents usually starting with metformin (Table 30). These agents include insulin secretogagues such as sulfonylureas and glitinides, which increase insulin production, and insulin sensiters such as metformin and the glitazones, which reduce insulin resistance. If glycaemic targets are not achieved on monotherapy, common practice is to combine one from each class according to the step-up approach e.g. metformin plus a sulfonylurea.

When oral hypoglycaemics fail (secondary failure) the new agent acarbose can be added. Insulin may eventually be required in many.



^{*} Inadequate response

Step-up approach to management of type 2 diabetes

[#] Use a gliptin if this combination is not an option

Hypoglycaemia

Treatment of severe cases or patient unconscious Treatment of choice: 20–50 mL, 50% dextrose IV (instil rectally using the nozzle of the syringe if IV access difficult) *or*

Alternative: I mL, glucagon IM then oral glucose Admit to hospital if concerned (rarely necessary).

Diabetic ketoacidosis

This life-threatening emergency requires intensive management. It usually occurs during an illness (e.g. gastroenteritis) when insulin is omitted.

Table 30 Commonly prescribed oral hypoglycaemic agents

Drug	Duration of action (h)	Daily dose range	Notes
Sulfonylureas			Hypoglycaemia most common side-effect
Gliclazide Glipizide Glibenclamide Glimepinde	12–24 6–12 12–24 >24	40–320mg 2.5–40mg 2.5–20mg 1–4mg	Strong and equipotent, caution in elderly Potent—unsuitable first- line therapy in elderly
Biguanides Metformin	8–12	1g, tds <i>or</i> 850mg bd	Usually reserved for obese but now first line Side-effects: GIT disturbances, esp. diarrhoea Avoid in cardiac, renal and hepatic disease Lactic acidosis a serious complication
α-glucosidase inhibitor Acarbose	3	150-600mg	Flatulence, liver effects
Glitinides Repaglinide	2-3	1.5–12mg	Hypoglycaemia, GIT effects
Thiazolidinediones (glitazones) Pioglitazone Rosiglitazone	24 24	15–45mg 2–8mg	Caution with heart failure Oedema, weight gains Oedema, hepatic effects
Gliptins (DDP-IV inhibitors) sitagliptin	>24	25–100 mg	nasopharyngitis, hypersensitivity
vildagliptin	>24	50–100 mg	allergic reactions

Management

- · Arrange urgent hospital admission
- · Give 10 units rapid-acting neutral insulin IV
- · Commence IV infusion of normal saline

Diarrhoea

Diarrhoea is defined as the frequent passage of loose or watery stools. Essential features are:

- · an increase in frequency of bowel action
- · an increase in softness, fluidity or volume of stools

Probability diagnosis

Acute diarrhoea Common causes are:

- · gastroenteritis
- bacterial
 - · Salmonella sp.
 - · Campylobacter jejuni
 - · S. aureus (food poisoning)
 - · Clostridium perfringens
 - enteropathic Escherichia coli
 - viral
 - · rotavirus (50% of children hospital admissions)
 - norovirus
- · dietary indiscretions (e.g. binge eating)
- · antibiotic reactions

Chronic diarrhoea: Irritable bowel syndrome was the commonest cause of chronic diarrhoea in a UK study.

Drug reactions, coeliac disease and chronic infections such as giardiasis and cryptosporidium are also important causes.

Specific conditions

Pseudomembranous colitis (antibiotic-associated diarrhoea)

This colitis can be caused by the use of any antibiotic, esp. clindamycin, lincomydn, ampicillin, the cephalosporins (an exception is vancomycin) and even metronidazole. It is usually due to an overgrowth of *Clostridium difficile*, which produces a toxin that causes specific inflammatory lesions, sometimes with a pseudomembrane and is becoming resistant to antibiotics. It may occur, uncommonly, without antibiotic usage.

Features

- Profuse watery diarrhoea
- · Abdominal cramping and tenesmus, maybe fever

- Within 2 d of taking antibiotic (can start up to 4–6 wks after usage)
- Persists 2 wks (up to 6) after ceasing antibiotic

Diagnosed by characteristic lesions on sigmoidoscopy and a tissue culture assay for *C. difficile* toxin.

Treatment

- Cease antibiotic
- Choice 1: metronidazole 400 mg (o) tds for 7-10 d or
- · Choice 2: vancomycin 125 mg (o) qid for 10 d

Ischaemic colitis in the elderly

Due to atheromatous occlusion of mesenteric vessels. Clinical features include:

- sharp abdominal pain in an elderly patient with bloody diarrhoea *or*
- periumbilical pain and diarrhoea about 15-30 mins after eating

Diarrhoea in children

The two commonest causes are infective gastroenteritis and antibioticinduced diarrhoea.

Acute gastroenteritis

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Chronic diarrhoea in children

Sugar intolerance

Synonyms: carbohydrate intolerance, lactose intolerance.

The commonest offending sugar is lactose. Diarrhoea often follows acute gastroenteritis when milk is reintroduced into the diet. Stools may be watery, frothy, smell like vinegar and tend to excoriate the buttocks. They contain sugar.

Treatment

- Remove the offending sugar from the diet.
- Use milk preparations in which the lactose has been split to glucose and galactose by enzymes, or use soya protein.

Cows milk protein intolerance

Not as common as lactose intolerance. Diarrhoea is related to taking a cows milk formula and relieved when it is withdrawn. Replace with either soy, a hydrolysed or an elemental formula.

Inflammatory bowel disorder

These disorders, which include Crohn disease and ulcerative colitis, can occur in childhood.

Chronic enteric infection

Responsible organisms include Salmonella sp., Campylobacter, Yersinia, Giardia lamblia and Entamoeba histolytica. With persistent diarrhoea it is important to obtain microscopy of faeces and aerobic and anaerobic stool cultures. G. lamblia infestation is not an uncommon finding and can mimic coeliac disease.

Coeliac disease

Clinical features in childhood:

- usually presents at 9-18 mths, but any age
- previously thriving infant
- · anorexia, lethargy, irritability
- · failure to thrive
- · malabsorption: abdominal distension
- · offensive frequent stools

Diagnosis:

- · characteristic duodenal biopsy—villous atrophy (gold standard test)
- · IgA markers

serum antigliadin (limited value), anti-endomysial and transglutaminase Abs—90% sensitivity and specificity

Treatment: remove gluten from diet

Note: Coeliac disease can occur at any age.

Classic triad: diarrhoea, weight loss, iron deficiency.

Cystic fibrosis

Cystic fibrosis is the commonest of all inherited disorders (1 per 2500 live births). Clinical features include:

- · family history
- · presents in infancy
- · meconium ileus in the neonate
- · recurrent chest infections (cough and wheeze)
- · failure to thrive
- malabsorption

Diagnosis: can be diagnosed antenatally (in utero) neonatal screening—CFTR protein

Treatment: oral pancreatic enzyme replacement for malabsorption attention to respiratory problems

Acute gastroenteritis in adults

Features

- Invariably a self-limiting problem (1-3 d)
- Other meal sharers affected \rightarrow food poisoning
- · Consider dehydration, esp. in the elderly
- · Consider possibility of enteric fever

Traveller's diarrhoea

Symptoms are usually as above but very severe diarrhoea, esp. if associated with blood or mucus, may be a feature of a more serious bowel infection such as amoebiasis. Most is caused by an *E. coli*, which produces a watery diarrhoea within 14 days of arrival in a foreign country (see \(^{\textstyle \)}\) 448–9).

It will respond to norfloxacin 400 mg (o) bd for 3 days.

Persistent traveller's diarrhoea If there is a fever and blood or mucus in the stools, suspect amoebiasis. Giardiasis is characterised by abdominal cramps, flatulence and bubbly foul-smelling diarrhoea.

Principles of treatment (adults)

Acute diarrhoea

- · Maintenance of hydration
- Antiemetic injection (for severe vomiting): prochlorperazine IM, statim or metoclopramide IV, statim
- Antidiarrhoeal preparations (avoid if possible: loperamide preferred) loperamide (Imodium) 2 mg caps, 2 caps statim then 1 after each unformed stool (max. 8 caps/d)

Dietary advice to patient It is vital that you starve but drink small amounts of clear fluids such as water, tea, lemonade and yeast extract (e.g. Marmite) until the diarrhoea settles. Then eat low-fat foods, such as stewed apples, rice (boiled in water), soups, poultry, boiled potatoes, mashed vegetables, dry toast or bread, biscuits, most canned fruits, jam, honey, jelly, dried skim milk or condensed milk (reconstituted with water).

Avoid alcohol, coffee, strong tea, fatty foods, fried foods, spicy foods, raw vegetables, raw fruit (esp. with hard skins), Chinese food, wholegrain cereals and cigarette smoking.

Antimicrobial drugs

It is advisable not to use these except where the following specific organisms are identified. Use appropriate reduced doses for children.

Pseudomembranous colitis

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Shigella dysentery (moderate to severe)

- cotrimoxazole (DS) 1tab (o) 12 hrly for 5 d or
- · norfloxacin 400 mg (o) 12 hrly for 5 d

Campylobacter jejuni (if prolonged)

- norfloxacin 400 mg (o) 12 hrly for 5d or
- erythromycin 500 mg (o) qid for 7 d (preferable)

Salmonella enteritis Antibiotics are not generally advisable but if severe or prolonged use ciprofloxacin 500 mg (o) bd or azithromycin for 2 wks. It is a notifiable disease.

Giardiasis

- tinidazole 2 g (o), single dose or
- · metronidazole 2 g (o) daily for 3 d

Amoebiasis (intestinal)

- metronidazole 600 mg (o) tds for 7–10 d or tinidazole plus
- paromomycin 500 mg (o) tds for 7 d (to prevent relapse) Specialist advice should be sought.

Special enteric infections (treatment regimens)

Typhoid/paratyphoid fever

- Ciprofloxacin 500 mg (o) 12 hrly for 10 d
- If ciprofloxacin is contraindicated (e.g. in children) or not tolerated, then use:
- azithromycin i g IV or (o) daily for iod or
- cotrimoxazole (DS) 1 tablet (o) 12 hrly for 14 d

Cholera Antibiotic therapy reduces the volume and duration of diarrhoea but rehydration is the key factor.

- doxycycline 100 mg (o) 12 hrly for 3 d or
- (in pregnant women and children) amoxycillin up to 250 mg (o) 6 hrly for 4 d $\,$

Inflammatory bowel disease

Inflammatory bowel disease should be considered when a young person presents with:

- · bloody diarrhoea and mucus
- · colonic pain and fever
- extra-abdominal manifestations such as arthralgia, low back pain (spondyloarthropathy), eye problems (iridocyclitis)

Two important diseases are ulcerative colitis and Crohn disease which have equal sex incidence and can occur at any age, but onset peaks at 20–40 yrs.

The main symptom of ulcerative colitis is bloody diarrhoea and of Crohn disease is colicky abdominal pain.

Management principles for both diseases

- Treat under consultant supervision.
- Treatment of acute attacks depends on severity of the attack and the extent of the disease:
 - mild attacks: manage out of hospital
 - severe attacks: hospital, to attend to fluid and electrolyte balance
- Pharmaceutical agents (the following can be considered):
 - 5-aminosalicylic acid derivatives (mainly UC)
 - sulfasalazine (mainstay) 1-2 g (o) 2-4 times/d
 - · olsalazine; mesalazine

- corticosteroids
 - oral
 - · parenteral
 - topical (rectal foam, suppositories or enemas)
- immunosuppressive drugs (e.g. azathioprine, cyclosporin (acute UC), methotrexate and infliximab (Crohn)
- Surgical treatment: reserve for complications.

Difficult, demanding and angry patients

'It is the patients who have the problems while doctors have the difficulties.'

Adhere to the principles of good communication and consulting skills, esp. the art of listening, rapport building, diplomatic confrontation, facilitation and searching. Seek the reason for the behaviour and become familiar with the characteristics of personality disorders (\$\subseteq\$ 352), esp. the antisocial (sociopathic) group (e.g. impulsive 'mad dog', borderline 'hell raiser', narcissistic 'prima-donna').

Guidelines for handling the angry patient

Do: listen, be calm and comfortable, be conciliatory and genuine, show interest and concern, be sincere, give time, allay any guilt, arrange follow-up, be a friend in need.

Don't: meet anger with anger, touch the patient, reject the patient, be evasive or a 'wimp', be overfamiliar, judgmental or patronising, talk too much.

Diplopia

The onset of double vision in adults can be uniocular (confined to one eye) or binocular, usually due to extraocular muscular imbalance or weakness. Examples of:

- uniocular diplopia: early cataract, dislocated lens, psychogenic (rare)
- binocular diplopia: ocular nerve palsies (3, 4 or 6) (e.g. CVA, TIA, diabetes, trauma, multiple sclerosis) (Fig. 46)

Test for diplopia with each eye occluded—if it persists it is uniocular, if it disappears it is binocular. Refer urgently if binocular, if recent onset and persistent.

Cranial nerves in general (with function)

- I Olfactory nerve—sensory for smell
- 2 Optic nerve—sensory for vision
- 3 Oculomotor—3 eye movements, eyelid closure, pupil constriction
- 4 Trochlear—down and in eye movement
- 5 Trigeminal—mastication, facial sensation

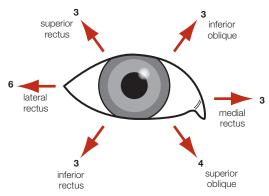


Figure 46 Direction of movement of the right eye indicating the responsible extra-ocular muscles and cranial nerves (3 = oculomotor, 4 = trochlear, 6 = abducens)

- 6 Abducens—abduction of eye
- 7 Facial nerve—motor for eye closure and facial muscles, taste anterior ²/₃ tongue
- 8 Acoustic nerve—sensory for hearing and balance
- 9 Glossopharyngeal—motor to palate and pharynx, sensory to pharynx and taste posterior ¹/₃ tongue
- 10 Vagus—motor to palate, pharynx, larynx, sensory to pharynx and larynx (gag reflex)
- 11 Accessory—motor to trapezius and sternomastoid muscles
- 12 Hypoglossal—motor for tongue movement

Disturbed patients

Key facts

- Depression affects 15% of people > 65 and can mimic or complicate any other illness, inc. delirium and dementia.
- · Elderly patients with depression are at a high risk of suicide.
- · Always consider the 4Ds:
 - dementia
 - delirium (look for cause)
 - depression (maybe 'pseudodementia' in elderly)
 - drugs
 - · toxicity
 - · withdrawal

Dementia (chronic organic brain syndrome)

There is no cure for dementia—tender loving care is important. Assess with the mental state examination (Appendix 2).

Drugs available for Alzheimer's disease

Cholinesterase inhibitors:

- donepezil 5 mg (o) nocte 4 wks, ↑ 10 mg nocte or
- galantamine 4 mg (o) bd 4 wks, ↑ 8 mg bd or
- rivastigmine 1.5 mg (o) bd 2 wks, ↑ 6 mg bd

Asparate (NMDA antagonist):

memantine 5 mg (o) mane 1 wk, ↑ 5 mg bd wk 2, ↑ 10 mg bd
 Psychotropic medication is often not required.

To control psychotic symptoms or disturbed behaviour:

- risperidone 0.5–2 mg (o)/d or olanzapine 5–10 mg (o)/d To control symptoms of anxiety and agitation:
- oxazepam 15 mg (o) 1–4 times/d (short-term use) Antidepressants for depression.

The acutely disturbed patient

Approach to management

- · React calmly.
- Try to control the disturbed patient gently.
- Ensure the safety of all staff.
- An adequate number of staff to accompany the doctor is essential—six
 is ideal (one for immobilisation of each limb, one for the head and one
 to assist with drugs).

Treatment options

- Diazepam or midazolam 2.5–5 mg increments IV, repeated every 3–4 mins until required level of sedation reached (max 20–30 mg) or if IM route best
 - droperidol (Droleptan) 5-10 mg IM (probably best) or
 - haloperidol 5–10 mg (o) up to 30 mg/d (watch for possible laryngeal dystonia and treat with benztropine 2 mg IM)
- If intramuscular benzodiazepines required: midazolam (Hypnovel)
 2.5-5 mg IM as single dose
- · Then search for the cause and/or refer accordingly

Delirium (acute organic brain syndrome)

Treatment principles

- · Acute delirium is a medical emergency.
- Establish normal hydration, electrolyte balance and nutrition.

Medication Medication may not be needed but will be in the presence of anxiety, aggression or psychotic symptoms. (Doses for a fit adult.) For anxiety and agitation:

- diazepam 5-10 mg (o) as single dose, can repeat in 1 hr or
- midazolam 1.25-5 mg IM

For psychotic behaviour, add:

- haloperidol 1.5–10 mg (o) according to response or
- olanzapine 2.5-10 mg (o) daily in 1 or 2 doses.

For severe symptoms, when parenteral medication required:

- haloperidol 5–10 mg (IM) as single dose or
- droperidol 5–10 mg (IM) as single dose (more sedating)

For anticholinergic delirium:

 tacrine hydrochloride 15–30 mg with caution by slow IV injection (an antidote)

The acute psychotic patient

Remember explanation and support to family and patient.

Treatment of acute phase of psychosis (schizophrenia and related psychoses)

- · Hospitalisation usually necessary
- · Drug treatment for the psychosis
- I When oral medication possible, first-line treatment is one of the second generation antipsychotics:
 - olanzapine 5–10 mg (o) nocte or
 - risperidone i mg (o) nocte titrated gradually to 2–4 mg (o) bd (beware hypotension) or
 - quetiapine 50 mg (o) bd ↑ as tolerated to 200 mg bd (by day 5) or other
- 2 When parenteral medication required:
 - haloperidol 2.5–10 mg IV or IM, initially,↑ 20 mg in 24 h, depending on response or
 - zuclopenthixol acetate 50-150 mg IM as a single dose add
 - benztropine 1-2 mg (o) bd (to avoid dystonic reaction)

If dystonic reaction:

- benztropine $_{I-2}$ mg IV or IM

If very agitated, use:

diazepam 5–20 mg (o) or 5–10 mg IV

Chronic phase of schizophrenia Long-term antipsychotic medication recommended to prevent relapse.

Examples of oral medication regimens:

- olanzapine 10–20 mg (o) nocte or
- quetiapine 150 mg (o) bd or
- risperidone 0.5-1 mg (o) bd, up to 2-4 mg (o) bd

Use depot preparations if compliance is a problem (use test dose first):

- fluphenazine decanoate 12.5–50 mg IM, every 2–4 wks or
- haloperidol decanoate 50-200 mg IM, every 4 wks or
- flupenthixol decanoate 20-40 mg IM, every 2-4 wks or
- zuclopenthixol deconate 100–400 mg IM every 2–4 wks

Resistant schizophrenia (options)

- clozapine 12.5 mg (o) bd initially increasing up to 300–600 mg/d
- olanzapine 5–20 mg (o)/d

Bipolar disorder

Management of acute mania

Hospitalisation

- For protection of patient and family
 - · Usually involuntary admission necessary

Drugs of choice

- Cooperative patient—use mood stabiliser: lithium carbonate 750–1500 mg (o)/d
 - this is the initial dose
 - give in 2-3 divided doses
 - · monitor by plasma levels
 - therapeutic plasma level o.8–1.4 mmol/L
 - required daily dosage usually 1000–2500 mg
 - arguably the prime mood stabiliser

sodium valproate 400-800 mg (o)/d

- · give in 2 divided doses
- introduce stepwise
- therapeutic plasma level 350–700 μmol/L

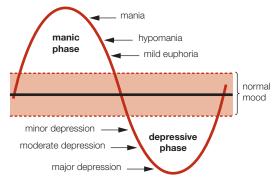


Figure 47 Bipolar disorder (manic depression): possible mood swings

or

carbamazepine 200-400 mg (o)/d

- · give as above
- therapeutic plasma level 20–50 μmol/L

or

olanzapine 5-20 mg (o) daily, in 1 dose nocte, or 2 divided doses

2 Uncooperative patients and manic behaviour problematic:

haloperidol 10–20 mg (o) as single dose

- can be repeated up to 40 mg daily, depending on response
- there is a risk of tardive dyskinesia

If parenteral antipsychotic drug required: haloperidol 5-10 mg IM or IV

- repeat in 15–30 mins if necessary
- · change to oral medication as soon as possible

Oral diazepam will complement haloperidol.

If not responding to medication consider ECT.

Maintenance/prophylaxis

• lithium carbonate—continue for 6 mths

If not tolerated or ineffective, use:

- carbamazepine or sodium valproate: these antiepileptics can be first option or used with lithium
- lithium + sodium valproate effective for rapid cycling illness (4 or more episodes per yr)

Management of bipolar depression

- The mood stabilisers may have a bimodal (antidepressant and antimania effect) but add an antidepressant (e.g. SSRI, SNRI or MAOI)
- Withdraw antidepressant within I-2 months because tend to precipitate mania. ECT is a proven effective treatment.

Diverticular disease

Diverticular disease is a problem of the colon (90% in descending colon) and is related to lack of fibre in the diet. It is usually symptomless.

Clinical features

- Typical in middle aged or elderly >40 yrs
- Diverticulosis—symptomless
- Diverticulitis—infected diverticula and symptomatic constipation or alternating constipation/diarrhoea
 - intermittent cramping lower abdominal pain in LIF
 - tenderness in LIF
 - rectal bleeding may be profuse (± faeces)
 - may present as acute abdomen or subacute obstruction
 - usually settles in 2-3 d

Investigations

- · WBC and ESR—to determine inflammation
- Sigmoidoscopy
- Barium enema
- US/CT scan (acute disease)

Management

High-fibre diet

Symptomatic

- · fibre supplements
- · antispasmodics

Diverticulitis (mild)

Amoxycillin + clavulanate 875 mg (o) bd, 5-10 d

Diverticulitis (complicated)

- · Nil orally, IV fluids, analgesics
- · Antibiotics
- (Amoxy) ampicillin IV + gentamicin IV + metronidazole IV

Dizziness/vertigo

The term 'dizziness' is generally used collectively to describe all types of equilibrium disorders and, for convenience, can be classified as shown in Fig. 48.

Vertigo

Vertigo is an episodic sudden sensation of circular motion of the body or of its surroundings.

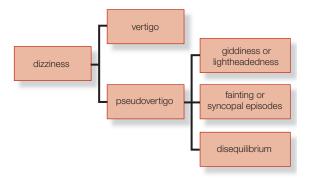


Figure 48 Classification of dizziness

Giddiness

Giddiness is a sensation of uncertainty or ill-defined lightheadedness. It is a typical psychoneurotic symptom.

Syncopal episodes

Syncope may present as a variety of dizziness or lightheadedness in which there is a sensation of impending fainting or loss of consciousness. Common causes are cardiogenic disorders and postural hypotension, which are usually drug-induced.

Disequilibrium

Disequilibrium implies a condition in which there is a loss of balance or instability while walking, without any associated sensations of spinning. It is often described as 'like standing on a rocking boat' where the feeling underneath the feet is unsteady.

Special causes of dizziness Drugs

Drugs usually affect the vestibular nerve rather than the labyrinth. The causes, which are numerous, include antibiotics esp. the 'mycins and tetracyclines, anticonvulsants, cardiogenic drugs and salicylates.

Cervical spine dysfunction

It is not uncommon to observe vertigo in patients with cervical spondylosis or post-cervical spinal injury. It has been postulated that this may be caused by the generation of abnormal impulses from proprioceptors in the upper cervical spine. Some instances of benign positional vertigo are associated with disorders of the cervical spine.

Acute vestibulopathy (vestibular failure)

This term covers both vestibular neuronitis and labyrinthitis, which are considered to be a viral infection of the vestibular nerve and labyrinth respectively, causing a prolonged attack of vertigo that can last for several days.

Main features

- · Often follows a 'flu-like' illness
- · Mainly affects young adults and middle age
- · Generally lasts days to weeks
- · Nausea and vomiting
- · No hearing loss or tinnitus
- · Horizontal nystagmus (in acute phase)

Treatment

- · Rest in bed, lying very still.
- Gaze in the direction that eases symptoms.
- Drugs to lessen vertigo.

The following drugs can be used:

- dimenhydrinate (Dramamine) 50 mg (o) 4-6 hrly or
- prochlorperazine (Stemetil) 12.5 mg IM (if severe vomiting) or
- diazepam (which decreases brain-stem response to vestibular stimuli) 5-10 mg IM for the acute attack then 5 mg (o) tds for 3 days. Also a short course of corticosteroids can promote recovery.

Outcome

Both are self-limiting disorders and usually settle over several days (e.g. 5-7) or weeks. Labyrinthitis usually lasts longer and during recovery rapid head movements may bring on transient vertigo.

Benign paroxysmal positional vertigo

This is a common type of vertigo that is induced by changing head position particularly tilting the head backwards, changing from a recumbent to a sitting position or turning to the affected side.

Clinical features

- · Affects all ages, esp. elderly
- Recurs periodically for several days
- Each attack is brief, usually 10–60 secs, and subsides rapidly

Table 31 Dizziness/vertigo: diagnostic strategy model (modified)

Q. Probability diagnosis

A. Anxiety hyperventilation (G) Postural hypotension (G/S) Simple faint—vasovagal (S) Acute vestibulopathy (V) Benign positional vertigo (V) Motion sickness (V)

Post head injury (V/G) Cervical dysfunction/spondylosis (V)

Q. Serious disorders not to be missed

A. Neoplasia

- · acoustic neuroma
- posterior fossa tumour
- other brain tumours—1° or 2° Intracerebral infection (e.g. abscess)

Cardiovascular

- · cardiac arrhythmias
- · myocardial infarction
- aortic stenosis

Cerebrovascular

- vertebrobasilar insufficiency
- · brain-stem infarct, e.g. PICA thrombosis

Multiple sclerosis

Q. Pitfalls (often missed)

A. Ear wax—otosclerosis

Arrhythmias Hyperventilation

Alcohol and other drugs

Cough or micturition syncope Vertiginous migraine

Parkinson's disease

Meniere's syndrome (overdiagnosed)

Otosclerosis

- · Attacks not accompanied by vomiting, tinnitus or deafness
- · Cause is probably floating tiny fragments in labyrinth
- · Diagnosis confirmed by head position testing
- · Tests of hearing and vestibular function normal
- Usually spontaneous recovery in wks (most return to regular activity after i wk)

Management

- Appropriate explanation and reassurance
- Avoidance measures: the patient quickly begins to move in a certain way and avoids attacks of vertigo
- · Drugs not recommended
- · Special exercises (e.g. Cawthorne-Cooksie exercises)
- · Particle repositioning manoeuvres e.g. Epley, Semont, by doctor
- · Cervical traction may help

Meniere's syndrome

- Commonest in 30-50 age group
- Characterised by paroxysmal attacks of:
 - vertigo
 - tinnitus
 - nausea and vomiting
 - sweating and pallor
 - deafness (progressive)
- Abrupt onset—patient may fall
 Head movements avoided—often bedridden
- Attacks last 30 mins to several hours
- Nystagmus observed only during an attack
- · Examination:
 - sensorineural deafness
 - caloric test-impaired vestibular function
 - audiometry
 - · sensorineural deafness
 - · loudness recruitment

Note: Tends to be overdiagnosed.

Treatment (acute attack) IV diazepam 5 mg or IM prochlorperazine 12.5 mg. Many use these drugs in combination.

Treatment (long term)

- Reassurance with a very careful explanation of this condition to the patient who often associates it with malignant disease
- · Avoid excessive intake of salt (especially), tobacco and coffee
- Alleviate anxiety by using long-term sedation
- Referral for a neurological assessment
- Diuretic (e.g. Hygroton, Moduretic)

• Consider betahistadine (Serc) 8 mg (o) 8 hrly to prevent attacks Surgery may be an option for intractable cases.

Recurrent vestibulopathy

- Episodic vertigo ± vomiting of similar duration to Meniere's
- · No hearing loss, tinnitus or focal neurological signs
- Peak age 30–50 yrs, M = F
- · Aetiology unknown

Treatment is symptomatic.

Dizzy turns in elderly women

If no cause such as hypertension is found, advise them to get up slowly from sitting or lying and to wear firm elastic stockings.

Dizzy turns in girls in late teens

- · Common due to blood pressure fluctuations
- · Give advice related to stress, lack of sleep or excessive activity
- · Reassure that it settles with age (rare after 25 yrs)

Domestic violence

Domestic violence basically means the physical, sexual or emotional abuse of one partner by the other, almost invariably abuse of a female by a male.



Figure 49 The cycle of domestic violence

However, the abuse can be of an elderly parent by the children or from some other member of the household to another member.

A major problem in dealing with domestic violence is that it is hidden and the victims are reluctant to divulge the cause of their injuries when visiting medical practitioners.

Possible presentations One study defines a 3-stage sequence to the battering syndrome:

- Stage 1: woman presents with injuries in the central anterior regions of the body (face, head & torso).
- Stage 2: multiple visits to clinics, often with vague complaints.
- Stage 3: development of psychological sequelae (alcohol, drug addiction, suicide attempts, depression).

Cycle of violence A predictable pattern that is referred to as the 'cycle of violence' has been identified in many marriages. It is controlled by the perpetrator while the victim feels confused and helpless. The cycle repeats itself with a tendency for the violence to increase in severity (see Fig. 49).

Management The key to successful management is initial recognition of the problem and establishment of empathetic caring and support for the victim and family. As with an alcohol problem, the person has to admit that they have a problem before effective counselling can begin. A management strategy is presented in Fig. 50 overleaf.

Dry eyes

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Dry hair

- Don't shampoo every day.
- · Use a mild shampoo (labelled for 'dry or damaged hair').
- · Use a conditioner.
- · Snip off the split or frayed ends.
- · Avoid heat (e.g. electric curlers, hair dryers).
- · Wear head protection in hot wind.
- Wear a rubber cap when swimming.

Dry mouth

Dry mouth (xerostomia) is a symptom rather than a disease affecting 10% of the population.

Features include a burning sensation, a decrease in taste or a bad taste and fetid breath.

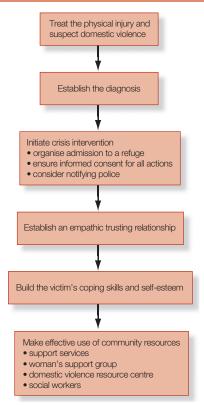


Figure 50 Management strategy for domestic violence

The commonest primary cause is salivary gland atrophy due to ageing. Secondary causes are drugs (very common), depression, anxiety, thirst, dehydration and anaemia.

Treatment

- Treat identifiable cause
- · Meticulous oral hygiene
- · Regular dental checks
- Sip sugarless fluids often
- · Chew sugarless gum
- Use a saliva substitute (e.g. Saliva Orthana, Aquae) or frequent mouthwashes (e.g. lemon and glycerin 5–10 mL in 100 mL water)
- Use sodium fluoride 0.5% mouthwash for 5 mins each day *Note*: Dry eyes + dry mouth + arthritis = Sjögren syndrome.

Dry skin

Disorders associated with scaling and roughness of the skin include:

- atopic dermatitis—all types (e.g. pityriasis alba, nummular eczema, asteatotic dermatitis)
- · ageing skin
- psoriasis
- · ichthyotic disorders
- · keratosis pilaris

Management

- · Reduce bathing and frequency and duration of showering.
- · Bathe and shower in tepid water.
- Use a soap substitute (e.g. Dove, Neutrogena or Cetaphil lotion or aqueous cream).
- · Rub in baby oil after patting dry.
- · Avoid wool next to skin (e.g. wear cotton).
- · Use emollients (e.g. Alpha-Keri lotion, Nutrad cream, QV cream).
- Use moisturisers with 10% urea (e.g. Calmurid, Dermadrate, Nutraplus, Aquacare HP).
- Use dilute corticosteroid ointment if resistant local patches.
- · Advise a good diet and drink plenty of water.

Dyslipidaemia

Established facts

- Major risk factors for CAD include:
 - ↑ LDL cholesterol + ↓ HDL cholesterol
 - ratio LDLC/HDLC >4
- Risk increases with increasing total cholesterol (TC) levels (90% if >7.8 mmol/L)
- TG levels > 10 mmol/L increases risk of pancreatitis
- · Management should be correlated with risk factors

Investigations

- · Serum triglyceride
- Serum cholesterol and HDLC and LDLC if ≥5.5 mmol/L
- TFTs if overweight elderly female

Non-pharmacological measures

- · Dietary measures:
 - Keep to ideal weight
 - Reduce fat intake, esp. dairy products and meat
 - Avoid 'fast' foods and deep-fried foods

Appropriate treatment goals

- Total cholesterol <4.0 (esp. if high risk)
- · LDLC <2.5mmol/L
- HDLC >1.ommol/L
- Triglycerides <1.5mmol/L

Treat all risk factors.

- Replace saturated fats with mono- or polyunsaturated fats
- Always trim fat off meat, remove skin from chicken
- Avoid biscuits and cakes between meals
- Eat fish at least twice a week
- Ensure a high-fibre diet, esp. fruit and vegetables
- Keep alcohol intake to o-2 standard drinks/d
- Drink more water
- Use approved cooking methods, e.g. steaming, grilling
- · Regular exercise
- · Cessation of smoking
- · Cooperation of family is essential
- Exclude secondary causes (e.g. hypothyroidism, type 2 diabetes, nephrotic syndrome, obesity, alcohol excess, esp.
 [↑]TG, specific diuretics)

Checkpoints

- Diet therapy effective (TG \downarrow , LDLC \downarrow) within 6–8 wks
- Continue at least 6 mths before consider drug therapy
- HRT beneficial in women (LDLC \downarrow , HDLC \uparrow)

 Table 32
 Patients requiring treatment (National Heart Foundation)

Risk category	Initiate drug therapy if lipid level (mmol/L) is	Target
Highest risk Existing CHD or other vascular disease	TC >4.0 or LDLC >3.0 or TG >2.0	<4.0 <2.5 <1.5
2 High risk (one or more of)	TC >6.0 or LDLC >4.0 or TG >4.0	<4.0 <3.0 <1.5
3 Lower risk (others)	TC >7.0 or LDLC >5.0 or TG >8.0	<4.0 <4.0 <4.0

Pharmacological measures

Use these agents in addition to diet.

Hypercholesterolaemia

Options: Choose one of the following:

- · HMG CoA reductase inhibitors ('statins'): first line
 - simvastatin or pravastatin or atorvastatin 10 mg (o) nocte, ↑ to max.
 40-80 mg/d or
 - fluvastatin 20 mg (o) nocte, increase to max. 80 mg/d or
 - rosuvastatin 10-40 mg/d

Adverse effects: GIT side-effects, myalgia, abnormal liver function

Monitor: Measure LFTs (ALT and CPK) and CK as baseline

Repeat LFTs after 4–8 wks, then every 6 wks for 6 mths

- Bile acid binding resins, e.g. cholestyramine $4\,g/d$ in fruit juice increasing to max. tolerated dose
- Adverse effects: GIT side-effects (e.g. constipation, offensive wind)

 Ezetimibe: 10 mg/d
- Ezetimile: 10 mg/d Adverse effects: arthralgia, myalgia, myositis, liver dysfunction Other agents
- Nicotinic acid 250 mg (o) with food daily increase to max. 500 mg tds Adverse effects: flushing, gastric irritation, gout Minimise with gradual introduction, take with food and aspirin cover
- Probucol 500 mg (o) bd
 Problems: slow response, care with hepatic disease
- Fish oils (n-3 fatty acids): 6 g/d

Resistant LDLC elevation Combined 'statin' and resin, e.g. cholestyramine 4–8 g (o) mane + a 'statin' to maximum dose

Combined ezetimibe + statin

Moderate to severe (isolated) TG elevation

- gemfibrozil 600 mg (o) bd or
- fenofibrate 145 mg (o)/d

Note: Slow response monitor LFTs predisposes to gallstones and myopathy Alternatives: nicotinic acid *or* n-3 fish oil concentrate 6 g (o) daily in divided doses to max. 15 g/d

Note: Reduction in alcohol intake is essential.

Dysmenorrhoea (primary)

Management

- Provide full explanation and appropriate reassurance.
- Promote a healthy lifestyle: regular exercise; avoid smoking and excessive alcohol
- · Recommend relaxation techniques such as yoga.

- · Avoid exposure to extreme cold.
- Place a hot water bottle over the painful area and curl the knees onto the chest.

Medication Options include (trying in order):

- · simple analgesics (e.g. aspirin or paracetamol)
- prostaglandin inhibitors (e.g. mefenamic acid, 500 mg tds at first suggestion of pain, if simple analgesics ineffective)
- NSAIDs (e.g. naproxen, 500 mg statim then 250 mg tds or ibuprofen)
- combined oral contraceptive (low-oestrogen triphasic pills preferable)
- · possible: progestogen medicated IUD (Mirena)

Dyspareunia

Painful intercourse can be considered as superficial (pain felt on insertion) or deep (pain on deep penetration).

Causes of superficial dyspareunia:

- · physiological—inadequate lubrication
- vaginitis, esp. chronic candidiasis
- vulvar dermatoses (see □ 471–2)
- · postnatal perineal scarring
- · vulvovaginal atrophy
- vulvular vestibular syndrome (see
 ¹ 472)
- · incompletely ruptured hymen
- · urethritis
- vaginismus

Causes of deep dyspareunia:

- endometriosis
- PID
- · pelvic adhesions
- · ovarian and uterine tumours
- · retroverted uterus
- post natal

Management involves treating the organic cause and advice about use of lubricants, oestrogen creams and perhaps lignocaine gel.

Dyspepsia (indigestion)

Dyspepsia is pain or discomfort centred at the upper abdomen which is chronic or recurrent in nature.

Heartburn is a central retrosternal or epigastric burning sensation that spreads upwards to the throat.

Table 33 Dyspepsia: diagnostic strategy model

Q. Probability diagnosis

A. Irritable upper GIT (functional dyspepsia) Gastro-oesophageal reflex Oesophageal motility disorder

(dysmotility)

Q. Serious disorders not to be missed

A. Neoplasia

carcinoma: stomach, pancreas, oesophagus

Cardiovascular

- · ischaemic heart disease
- · congestive cardiac failure

Pancreatitis
Peptic ulcer

Q. Pitfalls (often missed)

A. Myocardial ischaemia Food allergy (e.g. lactose intolerance)

Pregnancy (early)

Biliary motility disorder Other gall bladder disease

Post vagotomy Duodenitis

Drugs (e.g. NSAIDs, biphosphonates)

Dyspepsia in children

Dyspepsia is an uncommon problem in children but can be caused by drugs, oesophageal disorders and gastro-oesophageal reflux in particular. It tends to be overdiagnosed and overtreated.

Gastro-oesophageal reflux

Prognosis Reflux gradually improves with time and usually ceases soon after solids are introduced into the diet. Most cases clear up completely by the age of 9 or 10 months, when the baby is sitting. Severe cases tend to persist until 18 months.

Investigations These are not necessary in most cases, but in those with persistent problems or complications referral to a paediatrician is recommended.

Management

- · Provide appropriate reassurance with parental education.
- · Changes in feeding practice and positioning will control most reflux.
- Place infant on left side for sleeping (prop up head of cot with bricks or boards to elevate it ~10-20 degrees).
- · Give smaller, more frequent feeds.
- Thicken feeds (e.g. expressed milk) with Carobel, infant Gaviscon powder, cornflour or Karicare.
- Medication not usually indicated but if persistent and complications such as painful oesophagitis use gastric acid reducing agent e.g. ranitidine (first line) or PPI e.g. omeprazole

Dyspepsia in adults

Gastro-oesophageal reflux disease (GORD)

Features

- Heartburn
- · Acid regurgitation, esp. lying down at night
- · Water brash
- · Diagnosis usually made on history
- Investigation usually not needed (reserve for danger signs and nonresponsive treatment)—gastroscopy is the investigation of choice

Management

Stage 1

- · Patient education/appropriate reassurance
- Consider acid suppression or neutralisation
- · Attend to lifestyle, inc. stress management
 - weight reduction if overweight (this alone may abolish symptoms)
 - reduction or cessation of smoking
 - reduction or cessation of alcohol (esp. with dinner)
 - avoid fatty foods (e.g. pastries)
 - reduction or cessation of coffee, tea and chocolate
 - avoid coffee and alcohol late at night
 - avoid gaseous drinks
 - leave at least 3h between evening meal and retiring
 - have main meal at midday with light evening meal
 - avoid spicy foods and tomato products
- Antacids
 - best is liquid alginate/antacid mixture e.g. Gaviscon/Mylanta plus 20 mL, on demand or 1½-2 h before meals and bedtime
- Elevation of head of bed or wedge pillow
 - if GORD occurs in bed, sleep with head of bed elevated 10–20 cm on wooden blocks or wedge pillow (preferable)

Stage 2

- Use PPIs (preferable) or H₂-receptor antagonists
- · Reduce acid secretion (select from)
 - H₂-receptor antagonists (oral use for 8 wks)
 - ranitidine 150 mg bd pc or 300 mg nocte or
 - famotidine 20 mg bd or
 - nizatadine 150 mg bd

PPI for 4 wks (very effective for ulcerative oesophagitis and reflux) (select from)

- omeprazole 20 mg mane or
- lansoprazole 30 mg mane or
- pantoprazole 40 mg mane or
- esomeprazole 20 mg mane or
- rabeprazole 20 mg mane

Note: May need to eradicate Helicobacter pylori if present.

Functional (non-ulcer) dyspepsia

This term applies to the 60% of patients presenting with dyspepsia in which there is discomfort on eating in the absence of demonstrable organic disease and can be considered in two categories:

- ulcer-like dyspepsia or
- · dysmotility-like dyspepsia

Ulcer-like

Treat as for GORD but with a preference for a 4-wk trial of H₂-antagonists and cease if symptoms resolve.

Dysmotility-like dyspepsia

Features of dysmotility

- · Discomfort with early sense of fullness on eating
- · Nausea
- Overweight
- · Emotional stress
- · Poor diet (e.g. fatty foods)
- · Similar lifestyle to GORD

Management Treat as for GORD (Stage 1). Include antacids. If not responsive:

Step 1

H₂-receptor antagonists.

Step 2

Prokinetic agents: domperidone 10 mg tds or metoclopramide 10 mg tds

Peptic ulcer disease

- · The two main causes are NSAIDs and H. pylori.
- Diagnose H. pylori with 14C urea breath test.

Use same treatment as for GORD, i.e.:

Stage 1

- General measures
- Antacids

Stage 2

- PPI—provide more rapid healing or
- H₂-receptor antagonists (8 wk course)

Other possible agents

- Mucosal-coating agents: sucralfate Ig tab (o) qid, Ihr ac and nocte for 6–8 wks
- Colloidal bismuth subcitrate (CBS): bismuth subcitrate (De-Nol) 2 tabs (chewed) bd for 6–8 wks
- Prostaglandin analogue: misoprostol 800 µg daily (divided doses)

Therapy to eradicate H. pylori

Treatment regimens (select from)

- I PPI + clarithromycin + either amoxycillin or metronidazole—i wk (90–95% success)
- 2 PPI + amoxycillin + metronidazole—2 wks (80–85%)
- 3 PPI + bismuth subcitrate + metronidazole + tetracycline—2 wks
- 4 Other combinations

Surgical treatment Indications include:

- failed medical treatment after I yr
- complications
 - uncontrollable bleeding
 - perforation
 - pyloric stenosis
- suspicion of malignancy in gastric ulcer
- · recurrent ulcer after previous surgery

NSAIDs and peptic ulcers

Ulcer identified in NSAID user

- Stop NSAID (if possible)
- Check smoking and alcohol use
- Try alternative anti-inflammatory analgesic (e.g. paracetamol or enteric-coated, slow-release aspirin)
- H₂-receptor antagonist (full dose) for 4–6 wks or misoprostol 800 mg/d (used for GU) or PPI (e.g. omeprazole 20–40 mg/d for 2–4 wks)

Prevention of ulcers in NSAID user Try alternatives (as above). Prophylactic drugs are rarely justified but reasonable in those over 75 yrs and in those with a past history of peptic ulcer.

- · misoprostol (prevents GU recurrence)
- H₂-receptor antagonist (prevents DU, not GU)

Note 1: If H. pylori is present, it should be eradicated with combination therapy.

Note 2: A useful prophylactic agent is Arthrotec 50 (diclofenac 50 mg + misoprostol 200 mg) taken orally 2–3 times/d.

Dysphagia

Dysphagia is difficulty in swallowing usually associated with a sensation of hold-up of the swallowed bolus \pm pain. Its origin is either oropharyngeal (mainly neuromuscular, e.g. CVA) or oesophageal (mainly achalasia, diffuse spasm or peptic structure often secondary to reflux).

Dysphagia must not be confused with the anxiety disorder globus hystericus, which is the sensation of a constant lump in the throat without swallowing difficulty.

Table 34 Dysphagia: diagnostic strategy model

Q. Probability diagnosis

A. Functional (e.g. 'express swallowing', psychogenic) Tablet-induced irritation Reflux oesophagitis Neuromuscular (e.g. CVA)

Q. Serious disorders not to be missed

A. Neoplasia

- carcinoma pharynx, oesophagus, stomach
- extrinsic tumour
 Stricture, usually benign peptic

Scleroderma

Neurologic causes, e.g. pseudobulbar palsy

- · multiple sclerosis
- Parkinson's disease

Q. Pitfalls (often missed)

A. Foreign body

Drugs (e.g. phenothiazine)
Subacute thyroiditis
Extrinsic masses (e.g. goitre)
Upper oesophageal web
Achalasia
Upper oesophageal spasm
(mimics angina)

Eosinophilic oesophagitis

Mechanical dysphagia represents carcinoma until proven otherwise—a

short history of rapidly progressive dysphagia and significant weight loss indicates malignant oesophageal obstruction.

Investigations include manometry (achalasia etc), barium swallow (inc. video imaging) and endoscopy.

Dyspnoea

Dyspnoea is the subjective sensation of breathlessness that is excessive for any given level of physical activity.

Important causes of dyspnoea

- asthma (1 48)
- COPD (□ 136)
- heart failure (297)

Table 35 Comparison of distinguishing features between dyspnoea due to heart disease and to lung disease

Lung disease	Heart disease
History of respiratory disease	History of hypertension, cardiac ischaemia or valvular heart disease
Slow development	Rapid development
Present at rest	Mainly on exertion
Productive cough common	Cough uncommon, and then 'dry'
Aggravated by respiratory infection	Usually unaffected by respiratory infection

Interstitial lung diseases

Interstitial lung diseases comprise a group of disorders that have the common features of inflammation and fibrosis of the interalveolar septum, representing a non-specific reaction of the lung to injury of various causes. Causes of pulmonary infiltration include:

- sarcoidosis
- · cryptogenic fibrosing alveolitis
- · extrinsic allergic alveolitis
- · lymphangitis carcinomatosis
- · drug induced (e.g. nitrofurantoin, cytotoxics)

Common clinical features:

- dyspnoea and dry cough (insidious onset)
- slowly progressive dyspnoea over months to years
- · fine inspiratory crackles at lung base
- finger clubbing
- PFTs:
 - restrictive ventilatory deficit
 - decrease in gas transfer factor
- · characteristic X-ray changes

Table 36 Dyspnoea: diagnostic strategy model

Q. Probability diagnosis

A. Bronchial asthma

Bronchiolitis (children)

Left heart failure

COPD

Lack of fitness

Obesity

Functional hyperventilation

Q. Serious disorders not to be missed

A. Cardiovascular

- · acute heart failure (e.g. AMI)
- · arrhythmias
- pulmonary embolism

Neoplasia

· bronchial carcinoma

Severe infections

- · pneumonia/influenza
- SARS
- acute epiglottitis (children)
 Respiratory disorders

Respiratory disorders

- inhaled foreign body
- · upper airways obstruction

- pneumothorax
- · atelectasis
- pleural effusion
- tuberculosis
- acute respiratory disease syndrome (ARDS)

Neuromuscular disease

- · infective polyneuritis
- · poliomyelitis

Q. Pitfalls (often missed)

A. Cryptogenic fibrosing alveolitis

Extrinsic allergic alveolitis

Chemical pneumonitis

Metabolic acidosis

Radiotherapy

Renal failure (uraemia)

Multiple small pulmonary emboli

Drug induced interstitial lung

disease (e.g. cytotoxics, sulfasalazine, amiodarone)

Sarcoidosis

Pulmonary function tests

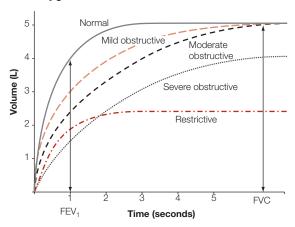


Figure 51 Spirograms showing normal, obstructive and restrictive patterns

Sarcoidosis

Clinical features:

- · may be asymptomatic (one-third)
- onset usually 3rd or 4th decade (but any age)
- bilateral hilar lymphadenopathy (on CXR)
- · cough
- · fever, malaise, arthralgia
- · erythema nodosum
- ocular lesions (e.g. anterior uveitis)
- · other multiple organ lesions (uncommon)
- overall mortality 2–5%

Diagnosis Histological evidence from biopsy specimen, usually transbronchial biopsy—best with video-assisted thoracoscopy.

Supporting evidence:

- elevated s. ACE level + s. calcium
- PFTs: restrictive pattern; impaired gas transfusion in advanced cases

Treatment Sarcoidosis may resolve spontaneously (hilar lymphadenopathy without lung involvement does not require treatment).

Indications for treatment with corticosteroids:

- no spontaneous improvement or worse after 3–6 mths
- · symptomatic pulmonary lesions
- · eye, CNS and other systems involvement
- · hypercalcaemia, hypercalcuria

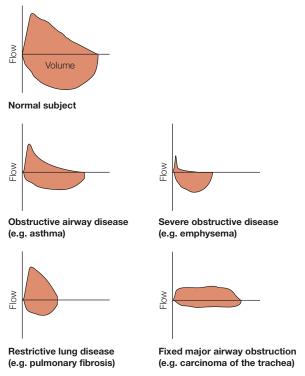


Figure 52 Maximum expiratory and inspiration flow volume curves with examples of relative changes of patterns with respiratory disease

- · erythema nodosum with arthralgia
- · persistent cough

Corticosteroid treatment

- Prednisolone 30 mg daily for 6 wks, then reduce to lowest dose which maintains improvement (e.g. 10–15 mg for 6–12 mths).
- Prednisolone 20–30 mg for 2 wks for erythema nodosum of sarcoidosis.

Fibrosing alveolitis

Cryptogenic fibrosing alveolitis (idiopathic fibrosing interstitial pneumonia) is the most common diagnosis among patients presenting with interstitial lung disease.

Patients usually present in the 5th-7th decade with the clinical features as outlined under interstitial lung diseases. CXR abnormalities are variable but include bilateral diffuse nodular or reticulonodular shadowing favouring the lung bases. Open lung biopsy may be needed for diagnosis and staging. The usual treatment is high doses of oral corticosteroids with azathioprine. Prognosis is poor.

Extrinsic allergic alveolitis

This hypersensitivity pneumonitis is characterised by a widespread diffuse inflammatory reaction in both the small airways of the lung and alveoli, due to the inhalation of allergens, which are usually spores of micro-organisms such as *Thermophilic actinomycetes* in 'farmer's lung' or (more commonly) avian proteins from droppings or feathers in 'bird fancier's lung'.

Management is based on prevention, namely avoiding exposure to allergens or wearing protective fine mesh masks. Prednisolone can be used (with caution) to control acute symptoms. It should be pointed out that this allergic disease is different to the infection psittacosis.

Occupational pulmonary disease

Various types of acute and chronic pulmonary diseases are related to exposure to noxious substances, such as dusts, gases and vapours in the workplace.

Disorders due to chemical agents include:

- obstructive airways disorders e.g. occupational asthma, acute bronchitis, (chronic) industrial bronchitis, byssinnosis (asthma-like condition due to cotton dust)
- · extrinsic allergic alveolitis
- pulmonary fibrosis (pneumoconiosis) due to mineral dust
- lung cancer due to industrial agents, such as asbestos, various hydrocarbons
- · pleural diseases, usually associated with asbestosis

Practice tips for dyspnoea

- Remember to order a chest X-ray and pulmonary function tests in all doubtful cases of dyspnoea.
- All heart diseases have dyspnoea as a common early symptom.
- Increasing dyspnoea on exertion may be the earliest symptom of incipient heart failure.
- Several drugs can produce a wide variety of respiratory disorders, particularly pulmonary fibrosis and pulmonary eosinophilia.
 Amiodarone and cytotoxic drugs, esp. bleomycin, are the main causes.

- Dyspnoea in the presence of lung cancer may be caused by many factors, such as pleural effusion, lobar collapse, upper airway obstruction and lymphangitis carcinomatosis.
- The abrupt onset of severe dyspnoea suggests pneumothorax or pulmonary embolism.
- If a patient develops a relapse of dyspnoea while on digoxin therapy, consider the real possibility of digoxin toxicity and/or electrolyte abnormalities leading to left heart failure.
- Recurrent attacks of sudden dyspnoea, esp. waking the patient at night, are suggestive of asthma or left heart failure.
- Causes of hyperventilation include drugs, asthma, thyrotoxicosis and panic attacks/anxiety.

Acute respiratory distress syndrome

Aka acute lung injury, refers to acute hypoxaemic respiratory failure following a pulmonary or systemic insult with no apparent cadiogenic cause of pulmonary oedema. It occurs about 12–48 hours after the event, often sepsis.

Severe acute respiratory syndrome (SARS)

An atypical pnuemonia due to a unique coronavirus. Suspect it in person with a fever >38° + cough + dyspnoea + contact with SARS person or endemic area. Diagnosis by CT scan and PCR tests.

Dystonia

Dystonias are sustained or intermittent abnormal repetitive movements or postures due to alterations in muscle tone. The dystonia spasms may affect one (focal, e.g. blepharospasm of eyelid) or more (segmental, e.g. neck—spasmodic torticollis) parts of the body or the whole body (generalised, e.g. oculogyric crisis).

Generalised dystonia Usually drug induced, e.g. levodopa, psychotropics. Treatment: benztropine 1–2 mg IM or IV

Focal dystonias

- · Blepharospasm (uncontrolled blinking)
- · Oromandibular (jaw grinding and grimacing)
- · Meige's syndrome (combination of above two)
- · Hemifacial spasms (eye spreading to face)
- · Cervical dystonia (spasmodic torticollis)
- · Laryngeal or spastic dystonia—strained hoarse voice
- Hand and forearm cramps (e.g. writer's, typist's, golfer's or pianist's cramps)

Treatment Injection of purified botulinum A toxin into affected muscle groups—with care. Usually repeated every 3–6 mths.

Dysuria and frequency

Dysuria, or painful micturition, which is characterised mainly by urethral and suprapubic discomfort, indicates mucosal inflammation of the lower genitourinary tract (ie the urethra, bladder or prostate). It is most common in women aged 15–44.

Although urinary tract infections account for the majority of cases of dysuria in women, vaginitis and post-menopausal atrophic vaginitis can cause dysuria.

Investigations Basic investigations include:

- · dipstick testing of urine
- microscopy and culture (midstream specimen of urine or suprapubic puncture), and PCR urine testing for sexually transmitted diseases esp. chlamydia

Further investigations depend on initial findings and referral for detailed investigation will be necessary if the primary cause cannot be found.

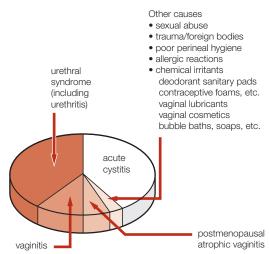


Figure 53 Relative causes of dysuria in women

| E |

Ear pain

Table 37 The painful ear: diagnostic strategy model

Q. Probability diagnosis

A. Otitis media (viral or bacterial) Otitis externa TMI arthralgia Eustachian dysfunction

O.Serious disorders not to be missed

A. Neoplasia of external ear Carcinoma of other sites (e.g. tongue, throat) Herpes zoster (Ramsay-Hunt syndrome) Acute mastoiditis

Q.Pitfalls (often missed)

A. Foreign bodies in ear Hard ear wax Barotrauma Unerupted wisdom tooth and other dental causes TMJ arthralgia Facial neuralgias, esp. glossopharyngeal Post tonsillectomy

- · from the wound
- · from TMJ due to mouth gag Referred pain: neck, throat

Otitis media in children

Cholesteatoma

Features

- Two peaks of incidence: 6-12 mths of age and school entry.
- · Seasonal incidence coincides with URTIs.
- The commonest organisms are viruses (adenovirus and enterovirus) and the bacteria S. pneumoniae, H. influenzae and Moraxella catarrhalis.
- Fever, irritability, otalgia and otorrhoea may be present.
- The main symptoms in older children are increasing earache and hearing loss.
- · Pulling at the ears is a common sign in infants.
- Viral cause indicated by reddening and dullness of tympanic membrane (without mucopus) associated with URTI.
- Antibiotics not warranted for viral causes, most improve within 48 hrs.
- Bacterial OM is suggested by acute onset of ear pain/ tugging, hearing loss, irritability and fever. Suppurative OM has progressive erythema and bulging of OM with loss of landmarks ± vomiting. Treat with ABs that are most beneficial in children < 2 yrs with bilateral OM, for devt. of more serious symptoms or if the fever, pain and other symptoms do not resolve within 2-3d (see box overleaf).

Treatment

- Rest patient in warm room with adequate humidity
- Paracetamol suspension for pain (high dosage)
- · Decongestants only if nasal congestion

Possible clinical indications for antibiotics in children with painful otitis media

- · Sick child with fever
- Vomiting
- · Red-yellow bulging TM
- Loss of TM landmarks
- · Persistent fever and pain after 3 days conservative approach

For bacterial OM the antibiotic of choice is

- · amoxycillin 15 mg/kg (to max. 500 mg) (o) tds for 7 d or
- amoxycillin 30 mg/kg bd for 7 d (for compliance)

If β -lactamase producing bacteria are suspected or documented or initial treatment fails, use:

- cefaclor 10 mg/kg (to max. 250 mg) (o) tds for 7 d (cefaclor is second choice irrespective of cause) or
- (if resistance to amoxycillin is suspected or proven) amoxycillin/ potassium clavulanate

Follow-up:

- report if no improvement in 72 h
- re-evaluate at 10 d

Complications

- Middle-ear effusion: an effusion up to 2 mths is relatively normal and antibiotics not warranted. If the effusion persists beyond 3 mths refer for an ENT opinion.
- Acute mastoiditis: pain, swelling and tenderness developing behind the ear with deterioration of the child requires immediate referral.
- Chronic otitis media.

Recurrent acute otitis media (AOM) Prevention of AOM is indicated if it occurs more often than every other mth or for ≥ 3 episodes in 6 mths.

 Chemoprophylaxis (for about 4 mths) amoxycillin 20 mg/kg (o) once daily or cefaclor bd

Check pneumococcal vaccination.

Otitis media in adults

Treatment of acute episode

- · Analgesics to relieve pain
- · Adequate rest in a warm room
- · Nasal decongestants for nasal congestion
- Antibiotics for evidence of bacterial infection
- · Treat associated conditions (e.g. adenoid hypertrophy)
- · Follow-up: review and test hearing audiometrically

Antibiotic treatment

First choice:

- amoxycillin 750 mg (o) bd for 5 d or
- 500 mg (o) tds for 5 d

Alternatives:

- doxycycline 100 mg (o) bd for 5–7 d (once/d for milder infections) or
- cefaclor 375 mg (o) bd for 5-7 d or
- (if resistance to amoxycillin is suspected or proven) amoxycillin/ potassium clavulanate 875/125 mg (o) tds for 5–7d (the most effective antibiotic)

Chronic otitis media There are two types of chronic suppurative otitis media and they both present with deafness and discharge without pain. The discharge occurs through a perforation in the TM: one is safe, the other unsafe

Table 38 Comparison of types of discharge

	Unsafe	Safe
Source	Cholesteatoma	Mucosa
Odour	Foul	Inoffensive
Amount	Usually scant, never profuse	Can be profuse
Nature	Purulent	Mucopurulent

If an attic perforation is recognised or suspected, specialist referral is essential. Cholesteatoma cannot be eradicated by medical means.

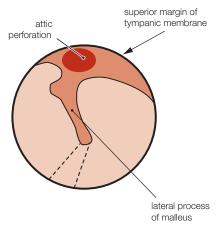


Figure 54 Infected ear: unsafe perforation

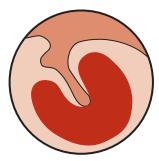


Figure 55 Infected ear: safe perforation

Otitis externa

Clinical features

- · Itching at first
- Pain (mild to intense)
- · Fullness in ear canal
- · Scant discharge
- · Hearing loss
- · Pain on moving pinna

Obtain culture, esp. if resistant *Pseudomonas* sp. suspected, by using small ear swab.

Management

Aural toilet The cornerstone of treatment. Dry mopping.

Syringing This is appropriate in some cases but the canal must be dried meticulously afterwards. For most cases it is not recommended.

Dressings After cleaning and drying, insert 10–20 cm of 4 mm Nufold gauze impregnated with a steroid and antibiotic cream.

For severe otitis externa a wick is important and will reduce the oedema and pain in 12–24 h. It needs replacement daily until the swelling has subsided.

Topical antimicrobials The most effective, esp. when the canal is open, is an antibacterial, antifungal and corticosteroid preparation (e.g. Ciprox HC, Kenacomb or Sofradex drops or ointment, 2–3 drops tds or flumethasone 0.02% with clioquinol (locacorten–vioform) 1% 2–3 drops bd).

Other measures

- · Strong analgesics are essential.
- ABs have little place in treatment unless a spreading cellulitis has developed.
- · Prevent scratching and entry of water.

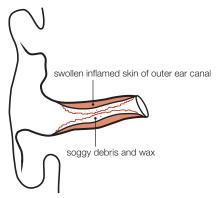


Figure 56 Otitis externa

Practice tip for severe 'tropical ear'

- Prednisolone (o) 15 mg statim then 10 mg 8 hrly for 6 doses followed by
- · Merocel ear wick
- · Topical Kenacomb, Ciprox HC or Sofradex drops

Furunculosis

This is usually *S. aureus* infection of a hair follicle just inside the canal opening.

Management

- · If pointing, incise after local or topical anaesthetic
- · Warmth—use hot face washer
- · If cellulitis or fever—di(flu)cloxacillin orally

Perichondritis

Perichondritis is infection of the cartilage of the ear characterised by severe pain of the pinna which is red, swollen and exquisitely tender.

Treatment: ciprofloxacin

Infected earlobe

The cause is most likely a contact allergy to nickel in an earring, complicated by an *S. aureus* infection.

Management

- · Discard the earrings.
- · Clean the site to eliminate residual traces of nickel.
- Swab the site, then commence antibiotics (e.g. di(flu)cloxacillin or erythromycin).

- Instruct the patient to clean the site daily, then apply the appropriate ointment.
- Use a 'noble metal' stud to keep the tract patent.
- · Advise the use of only gold, silver or platinum studs in future.

Otic barotrauma

Barotrauma affects scuba divers and aircraft travellers. The symptoms include temporary or persisting pain, deafness, vertigo, tinnitus and perhaps discharge.

Inspection of the TM may reveal (in order of seriousness): retraction; erythema; haemorrhage (due to extravasation of blood into the layers of the TM); fluid or blood in the middle ear; perforation. Perform conductive hearing loss tests with tuning fork.

Treatment Most cases are mild and resolve spontaneously in a few days, so treat with analgesics and reassurance. Menthol inhalations are soothing and effective. Refer if any persistent problems.

Ear exostoses ('surfer's ear')

These bony overgrowths are initiated by water retention in the ear.

Prevention

- · Use plugs to waterproof ear.
- · Dry thoroughly with hair dryer after swimming.

Ectropion

- Requires surgical repair (local anaesthetic).
- Use a mild ointment prior to surgery.

Elderly patients

Assessment of and the establishment of rapport with the elderly patient is a special skill. Age-associated deterioration of health and function occurs especially with hearing, vision, glucose tolerance, systolic blood pressure, kidney, pulmonary and cardiac function, immune function, bone density, cognitive function, mastication and bowel and bladder function.

'Rules of 7' for assessment of the non-coping elderly patient

If your elderly patient presents with non-specific symptoms, unexpected deterioration in health and/or an inability to cope with the activities of daily living, consider the following checklist (Table 39) in your assessment.

Apart from confusion, other non-specific symptoms include drowsiness, poor concentration, apathy, fatigue/weakness/tiredness/lethargy, anorexia, nausea, weight loss, dyspnoea, immobility, 'stuck in bed or chair', stumbles or falls. It is also important to consider infections including pneumonia and the masquerades.

Table 39 The 'rules of 7'

1	Mental state	?Confusion/dementia, depression, bereavement (incl. pets), elderly abuse/bullying
2	Eyes	?Visual acuity, cataracts, glaucoma
3	Ears	?Deafness (e.g. wax), tinnitus
4	Mouth	?Dentition, xerostomia, malnutrition
5	Medication	?Polypharmacy, adverse reactions
6	Bladder and bowels	?Incontinence, retention, urinary infection
7	Locomotion	?Gait—antalgic, movement disorder (esp. Parkinson disease), arthritis—hips/knees, back/sciatica, feet—nails, neuropathy, circulation, leg ulcers

The mini-mental state examination

Evidence of memory difficulty remains the best single indication of dementia and should always be evaluated by formal memory testing. A number of screening tests are available but the mini-mental state examination (MMSE), particularly the Folstein MMSE (Appendix 2) is commonly used and recommended.

Consider behavioural changes using the following checklist.

D: drugs and alcohol, depression

E: ears, eyes

M: metabolic e.g. hyponatraemia, diabetes mellitus, hypothyroidism

E: emotional problems (e.g. loneliness)

N: nutrition: diet (e.g. vitamin B group deficiency, teeth problems)

T: tumours, trauma (of CNS)

I: infection

A: atherosclerotic disease → cerebral insufficiency

Falls in the elderly

Falls are a major problem as at least 5% of falls result in a fracture particularly Colle's and femoral neck. The death rate is significant.

The main causes are:

- neurological (e.g. cerebrovascular disease, Parkinson disease)
- sensory impairment (e.g. visual, vestibular)
- · cardiovascular (e.g. postural hypotension)

- · musculoskeletal (e.g. arthritis, foot disorders)
- · fluid and electrolyte imbalance
- cognitive and psychological conditions (e.g. dementia, delirium)
- · medication/drug related (e.g. sedatives, alcohol)
- · physiological changes (e.g. gait disorders)
- · environmental factors (e.g. slipping or tripping)
- · combinations of the above

The most significant clinical risk factors for falls have been shown to be visual impairment, impaired general function, postural hypotension, hearing impairment, low morale/depression, drug usage, especially sedatives, decreased lower limb strength including arthritis, and impaired balance and gait.

Management and prevention involves correction of any medical disorders and risk factors. Refer patients of concern to a multidisciplinary team that includes occupational therapists and physiotherapists. Strategies include walking aids, home hazard control, exercise training and medication reduction.

Emergency management of key medical conditions

Table 40 Emergency management: using doctor's bag supplies

Condition	Treatment
All serious medical conditions	Don't forget: • secure IV line • oxygen
Acute pulmonary oedema (heart failure)	 frusemide 40–80 mg IV (or twice usual dose) glyceryl trinitrate 1 dose (spray) consider (esp. if chest pain)—morphine 5–10 mg IV
Acute anaphylaxis	 adrenaline 0.3–0.5 mg (1:1000) IM, repeat every 5 mins as nec. If no rapid improvement: salbutamol inhalation IV fluids ?hydrocortisone/glucagon
Angio-oedema + acute urticaria	promethazine 25 mg IM ± adrenaline
Asthma	 salbutamol 6 (<6 yrs) – 12 (adults) puffs by spacer hydrocortisone 200 mg IV If severe: adrenaline 0.3–0.5 mg 1:1000 IM or SC or infusion in N saline

Condition	Treatment
Croup (severe)	dexamethasone 0.15 mg/kg IM
Epilepsy (seizure)	 midazolam 0.2 mg/kg IM or diazepam 5-20 mg IV (rate ≤ 2 mg/min)
Opiate respiratory depression	• naloxone HCl o.4 mg IV + o.4 mg IM
Myocardial infarction	 aspirin 300 mg soluble tab glyceryl trinitrate spray or tabs (max. 3) morphine sulphate 2.5–5 mg IV
Hypoglycaemia	 glucagon 1 mg/mL SC, IM or IV, then sweet drink or 20–50 mL 50% glucose IV
Migraine (severe)	 prochlorperazine 12.5 mg IV or metoclopramide 10 mg IV ± dihydroergotamine IV or IM or haloperidol 5 mg IM or IV
Cluster headache	100% oxygen 6 L/min for 15 mins metoclopramide 10 mg IV + dihydroergotamine 0.5 mg IV slowly
Movement disorders (from antipsychotic medication)	benztropine 1–2 mg IV or IM
Meningococcaemia	 benzylpenicillin 60 mg/kg IV
Uretic colic	 morphine 10–15 mg IM or IV ± metoclopramide indomethacin suppository
Vertigo (acute)	prochlorperazine 12.5–25 mg IM or promethazine 25 mg IM
Vomiting	prochlorperazine 12.5 mg IM or IV or metoclopramide 10 mg

Encopresis

Encopresis is the involuntary passage of formed or semi-formed stools into clothing occurring repeatedly for at least 1 month, in children 4 yrs and over. Inadequate toileting and poor diet are features. The key feature is significant faecal retention \rightarrow rectal dilatation. PR reveals poor anal tone, capacious rectum overload with firm faeces.

Assessment

- · History inc. development
- · Examination inc. check underwear
- · Abdominal X-ray (serves as baseline)

Management The majority are cured with the following strategies. The initial task is to empty the bowel of faeces (can take months).

Laxative medication

- stool softener (e.g. paraffin oil) 20-40 mL daily
- Macrogel 3350 (Movicol) sachets 1 bd day 1, 2 bd day 2, 3 bd day 3 and so on until desired result
- · consider Microlax enema

Then Senokot granules, one teaspoon daily

If severe faecal impaction:

- admit to hospital (day care)
- consider abdominal X-ray
- · Macrogel 3350: double usual dosage
- · Microlax enema

If unsuccessful, sodium phosphate (Fleet) enema (not <2 y)

If oral medication refused, sodium sulphate (ColonLYTLEY) via nasogastric tube.

General care

- · ongoing interest and support (critical)
- · education and counselling
- · a good normal diet, adequate fluids and exercise
- structured toileting program (e.g. regular sitting on toilet for at least 10 mins, 3 times/d after each meal)
- · regular follow-up with encouragement, e.g. star-chart diary
- · avoid punitive methods, criticism and undue focus on the problem
- consider encopresis clinic if problematic

Endocarditis

Warning signs

- unexplained fever and cardiac murmur
- febrile illness after instrumentation or minor and major surgical procedures

Only 50% have previously known heart disease. Consider the possibility in IV drug users.

Main test is blood culture: at least 3 sets of samples within first hour.

Antimicrobial treatment There are two important principles of management:

- · treatment must be given IV for at least 2 wks
- treatment is prolonged—usually 4-6 wks

Consultation with an infectious disease physician or clinical microbiologist should be sought. Once cultures have been taken prompt empirical antimicrobial treatment should be commenced, esp. in fulminating infection suspected to be endocarditis. Benzylpenicillin + gentamicin +

di(flu)cloxacillin are recommended. Vancomycin needs to be considered if hospital acquired, MRSA suspected or prosthetic cardiac valve.

Prevention of endocarditis Value of prophylaxis unclear.

Low-risk patients (no prosthetic valves or previous attack of endocarditis): prophylaxis not recommended

High-risk patients (prosthetic values, all acquired valvular disease, past history, most congenital heart disease, mitral valve prolapse with regurgitation) having invasive dental procedures, oral or upper respiratory tract surgery, GIT or GU surgery:

- amoxycillin 2 g (50 mg/kg up to adult dose) orally, 1h beforehand (if not on long-term penicillin) or
- (amoxy) ampicillin 2 g (50 mg/kg up to adult dose) IV just before
 procedure commences or IM 30 mins before; if having a general
 anaesthetic plus
- gentamicin 2 mg/kg (2.5 mg/kg in children to max. dose 80 mg) IV (just before) or IM (30 mins before)

Endometriosis

Clinical features

- 10% incidence
- Puberty to menopause, peak 25-35 yrs
- · Secondary dysmenorrhoea
- Premenstrual spotting
- Infertility
- · Dyspareunia
- · Non-specific pelvic pain
- Menorrhagia
- · Acute pain with rupture of endometrioma

Diagnosis

- · Can be made only by direct visual inspection at laparoscopy or laparotomy
- · Ultrasound scan helpful

Treatment

- · Careful explanation—point out risk of infertility
- · Basic analgesics
- Treatment can be surgical or medical

Medical: to induce amenorrhoea (only two-thirds respond to drugs)

- danazol (Danocrine)—current treatment of choice
- combined oestrogen-progestogen oral contraceptive: once daily continuously for about 6 mths
- progestogens (e.g. medroxy-progesterone acetate (Depo Provera))
- GnRH analogues (e.g. goserelin)

Surgical: Surgical measures depend on the patient's age, symptoms and family planning. Laser surgery and microsurgery can be performed either via laparoscopy or laparotomy to ablate endometrial deposits and uterine nerve.

Note: Pregnancy beneficial but endometriosis can recur.

Entropion

If unsuitable for surgery, use a strip of hypo-allergenic, non-woven surgical tape ($1 \text{ cm} \times 3 \text{ cm}$) to evert lid and secure to cheek (see Fig. 57). It should be changed as often as necessary by a carer.

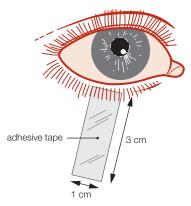


Figure 57 Treatment of entropion

Enuresis (bed-wetting)

Nocturnal enuresis

It is considered a problem if regular bed-wetting occurs in children 6 yrs and older, although many boys do not become dry until 8 yrs.

After the age of 6, investigations including an intravenous urogram or US are necessary to exclude urinary tract abnormalities and diabetes.

Advice for parents on managing the child

- · Do not scold or punish the child.
- Praise the child often, when appropriate.
- · Consider a star-chart diary with a star/dry night.
- Do not stop the child drinking after the evening meal.
- · Do not wake the child at night to visit the toilet.
- Use a night-light to help the child who wakes.

- Some parents use a nappy to keep the bed dry but try using special absorbent pads beneath the bottom sheet rather than a nappy.
- Make sure the child has a shower or bath before going to kindergarten or school.
- Reassure the child there is nothing wrong; it is a common problem that will go away.

Treatment Many methods have been tried, but the bed-wetting alarm system is generally regarded to be the most effective. If the child has emotional problems, counselling or hypnotherapy may be desirable. Desmopression acetate is effective and very useful on school camps.

Stepwise management trial

- I Conditioning therapy
 - pad or bell alarm or
 - body worn alarm (e.g. Malem night-trainer)

If a trial fails, have a 3-mth break and try again with close supervision.

- 2 Desmopressin acetate tablets or nasal spray each night (avoid water load before bed)
- 3 Desmopressin + alarm
- 4 Planned waking

The above is preferred to tricyclic antidepressants such as imipramine.

Epilepsy

Epilepsy is defined as a 'tendency to recurrence of seizures'. It is a symptom, not a disease. A person should not be labelled 'epileptic' until at least two attacks have occurred. Use monotherapy for prescribing if possible.

Types of epilepsy Epileptic seizures are classified in general terms as generalised and partial (Table 41 overleaf). Partial seizures are about twice as common as generalised seizures and usually due to acquired pathology.

Tonic-clonic seizures

Formerly called grand mal seizure, it is the classic convulsive seizure with muscle jerking. Typical features (in order):

- initial rigid tonic phase (up to 60 secs)
- · convulsion (clonic phase) (seconds to minutes)
- mild coma or drowsiness (15 mins to several hrs)

Atypical tonic-clonic seizures These variants of tonic-clonic seizures are more common than realised.

- · stiffen and fall = tonic
- floppy and fall = atonic
- shaking only = clonic

Table 41 Classification of epileptic seizures

1 Generalised seizures

Convulsive

tonic-clonic (previously called grand mal)

clonic

Non-convulsive

tonic atonic

drop attacks

absence (petit mal)

atypical absence myoclonic

2 Partial seizures (non-convulsive)

Simple partial (consciousness retained)

with motor signs (Jacksonian)

with somatosensory symptoms

with psychic symptoms

Complex partial (consciousness impaired)

3 Secondarily generalised

Diagnosis

- Check short-term aggravating factors (e.g. lack of sleep, medications, drugs inc. alcohol)
- Usual tests-EEG, CT or MRI (preferable) scan, basic biochemistry and haematology

Management

Note: Do not usually treat on one fit (chance of a further seizure is about 70%).

- Profound psychosocial support
- · Education, counselling, advocacy
- · Appropriate referral

Medication

sodium valproate (first choice)
 Adults: 500 mg (0)/d for 1 wk, then bd for 1 wk, ↑ every 2-4 wks to achieve control (up to 2-3 g/d)

Some prefer carbamazepine in young women because of risk of teratogenicity with valproate which, however, is less sedating

- · carbamazepine (2nd choice)
- other choices: phenytoin, lamotrigine, topiramate (usually added on to achieve optimal control—check interactions)

Continue treatment until fit-free for at least 2 yrs.

Avoid use of prochlorperazine and benzodiazepines. Monitor with annual LFTs and FBE.

Absence seizure

This type of generalised epilepsy typically affects children from 4 yrs up to puberty. It is subclassified as childhood absence epilepsy (formerly known as petit mal) usually 4-0 yrs and juvenile absence epilepsy usually 10-15 yrs.

- · child ceases activity and stares suddenly
- · child is motionless
- · no warning
- · sometimes clonic (jerky) movement of eyelids, face, fingers
- · may be lip-smacking or chewing (called complex absence)
- only lasts a few seconds—usually 5–10 secs
- · child then carries on as though nothing happened
- · usually several per day (not just one or two)
- · may lead to generalised seizures in adulthood

Diagnosis Best evoked in the consulting room by hyperventilation. FFG:

- · classic 3 Hz wave and spike
- · may be normal
- · always include hyperventilation

Medication

- · ethosuximide (1st choice) or
- sodium valproate (2nd choice): first line if associated other seizure type

Other choices: clonazepam, lamotrigine

Complex partial seizures

It is the commonest type of focal epilepsy and the attacks vary in time from momentary to several minutes (av. I-3 mins).

Possible manifestations

- · Commonest: slight disturbance of perception and consciousness
- · Hallucinations-visual, taste, smell, sounds
- · Absence attacks or vertigo
- Affective feelings—fear, anxiety, anger
- Dyscognitive effects e.g.: deja vu (familiarity), jamais vu (unreality)
- Objective signs:
 - lip-smacking
 - swallowing/chewing/sucking
 - unresponsive to commands or questions
 - pacing around a room

Unreal or detached feelings and post-ictal confusion are common in complex partial seizures. There can be permanent short-term memory loss.

Diagnosis

- EEG-diagnostic in 50-60% of cases
- · EEG/video telemetry helpful with frequent attacks
- · CT or MRI scan—to exclude tumour when diagnosis confirmed

Medication

- carbamazepine (1st choice) 200 mg/d \uparrow gradually by 100 mg/wk to control or
- · sodium valproate

Other choices: phenytoin, lamotrigine, gabapentin, vigabatrin, tiagabine

Simple partial seizures

In simple partial seizures there is no loss of consciousness. These include focal seizures which may proceed to a generalised tonic-clonic seizure or to motor seizures—Jacksonian epilepsy.

Jacksonian (motor seizure) Typically, jerking movements begin at the angle of the mouth or in the thumb and index finger and 'march' to involve the rest of the body, e.g. thumb \rightarrow hand \rightarrow limb \rightarrow face \pm leg on one side and then on to the contralateral side. A tonic-clonic or complex partial seizure may follow.

Medication: As for complex partial seizures.

Status epilepticus

Status is > I seizure without regaining consciousness or fitting > 20 mins.

Focal status

- · A high index of suspicion is needed to diagnose
- · Oral medication usually adequate
- · Avoid overtreatment

Generalised status

Absence attack (petit mal)

- Hospitalisation
- · IV diazepam

Tonic-clonic (dangerous!)

- Ensure adequate oxygenation: attend to airway (e.g. Guedel tube); give O₂ 8 L/min
- midazolam 0.05–0.1 mg/kg IV (max. 10–15 mg) or 0.15 mg/kg IM or
- Diazepam o.o5 mg/kg/min (or o.2 mg/kg stat) IV until the seizures cease or respiratory depression begins (beware of respiratory depression and other vital parameters); usually give 10–20 mg bolus in adult or
- clonazepam I-2 mg IV statim then 0.5-I mg/min IV until seizures cease or respiratory depression begins or

Followed by (for all of above benzodiazepines) phenytoin 1000 mg IV over 20–30 mins

Other drugs to consider: phenobarbitone; thiopentone; paraldehyde; sodium valproate (can use rectally)

Note: Midazolam is suitable for all types of seizures, and can be given intranasally.

Diazepam can be given rectally by solution, suppository or gel. In an adult, 10 mg is diluted in 5 mL, of isotonic saline and introduced via the nozzle of the syringe into the rectum. The dose in children is 0.5 mg/kg.

Epistaxis

Simple tamponade

- Pinch 'soft' part of nose between thumb and finger for 5 mins.
- Apply ice packs to bridge of nose.

Simple cautery of Little's area (Under LA, e.g. Cophenylcaine forte nasal spray \pm 5% cocaine solution.) Use one of three methods: electrocautery, trichloracetic acid or silver nitrate stick (preferred).

Persistent anterior bleed

 Merocel (surgical sponge) nasal tampon or Kaltostat pack or BIPP with ribbon gauze

'Trick of the trade' for recurrent anterior epistaxis:

- apply Nasalate nose cream tds for 7–10 d or
- · Rectinol ointment

Severe posterior epistaxis Use a Foley's catheter or an Epistat catheter with or without Kaltostat.

Erectile dysfunction

Erectile dysfunction (impotence) is the inability to achieve or maintain an erection of sufficient quality for satisfactory intercourse. It does not refer to ejaculation, fertility or libido. Look for a cause (e.g. psychogenic, hormonal—uncommon, drug-induced, vascular disease).

Investigations First-line blood tests:

testosterone
thyroxine
prolactin
luteinising hormone
androgen deficiency
hypothyroidism
hyperprolactinaemia
pituitary function

glucose

Others: nocturnal penile tumescence, LFTs, esp. GGT (alcohol effect)

Management

Treat cause. If psychogenic, refer for personal or sexual counselling. If androgen deficiency step-wise trial:

- I oral: testosterone undecanoate (Andriol)
- 2 IM: testosterone enanthate (Primoteston Depot) or testosterone esters (Sustanon)
- 3 subcutaneous implantation: testosterone implants (last 5–6 mths)
- If functional: oral mediation (PDE-5 inhibitors)
- sildenafil (Viagra) 50-100 mg (o) ½ -1 h before sex
- tadalafil (Cialis) 10-20 mg (o) 1-2 h before sex
- vardenafil (Levitra) 10-20 mg (o) ½ -1h before sex

Avoid in those on nitrates for angina.

Intrapenile injection prostaglandin E (alprostadil):

- · intracavernosal injections
- · self-administered after supervised teaching
- max. of 3/wk (use 2 pseudoephedrine tabs for prolonged erection > 2 h Transurethral alprostadil (Muse)—urethral pellet

Erysipelas

- · Superficial cellulitis of skin
- · Involves face in at least 80%—spread from nose
- · Caused by Streptococcus pyogenes
- · More common in the elderly
- · Abrupt onset
- · Rapidly spreading red patch of skin
- Lymphatic and lymph node involvement
- Heat, pain and oedema of lesion
- · Systemic effect (e.g. fever, malaise)
- · Recurrence is common

Treatment

- Phenoxymethylpenicillin 500 mg (o) qid or IM procaine penicillin once daily for 7–10 d
- Benzylpenicillin 600 mg (IV) 4 hrly (if severe)

Eye: dry

Usually elderly patient complaining of a chronic gritty sensation—due to reduced tear secretion. Three main preparations for treatment:

- lubricating drops (e.g. polyvinyl alcohol solution or hypromellose 0.5%)
- · lubricating gels or ointments (e.g. Poly Vise, Duratears)
- · tear stimulating drops (e.g. Thera Tears, Cellufresh)

Other tips:

- · Bathe regularly with clean water.
- · Use room humidifiers where there is dry heating.

Eye pain and redness

- Pain and visual loss suggest a serious condition such as glaucoma, uveitis (inc. acute iritis) or corneal ulceration.
- Beware of the unilateral red eye—think beyond bacterial or allergic conjunctivitis. It is rarely conjunctivitis and may be a corneal ulcer, keratitis, foreign body, trauma, uveitis or acute glaucoma.

Table 42 The red and tender eye: diagnostic strategy model

Q. Probability diagnosis Herpes zoster ophthalmicus A. Conjunctivitis Penetrating injury bacterial Endophthalmitis adenovirus Orbital cellulitis Q. Pitfalls (often missed) allergic Q. Serious disorders not to be A. Scleritis/episcleritis missed Foreign body A. Acute glaucoma Trauma Uveitis Ultraviolet light 'keratitis' · acute iritis Blepharitis · choroiditis Cavernous sinus arteriovenous Corneal ulcer fistula Herpes simplex keratitis Microbiol keratitis, e.g. fungal,

The clinical approach The five essentials of the history are:

- · history of trauma (esp. as indicator of IOFB)
- vision
- · the degree and type of discomfort
- presence of discharge
- · presence of photophobia

amoeba, bacteria

When examining the unilateral red eye, keep the following diagnoses in mind:

- trauma
- · foreign body, inc. IOFB
- · corneal ulcer
- · iritis (uveitis)
- · viral conjunctivitis (commonest type)
- · acute glaucoma

Red flags and 'golden rules' for red eye

- · Always test and record vision
- Beware of the unilateral red eve
- · Conjunctivits is almost always bilateral
- · Irritated eyes are often dry
- · Never use steroids if herpes simplex is suspected
- · A penetrating eye injury is an emergency
- · Consider an intra-ocular foreign body
- · Beware of herpes zoster ophthalmicus if the nose is involved
- · Irregular pupils: think iritis, injury and surgery
- · Never pad a discharging eye
- · Refer patients with eyelid ulcers
- · If there is a corneal abrasion look for a foreign body

Source: Based on J Colvin and J Reich

Red eye in children

Of particular concern is orbital cellulitis, which may present as a unilateral swollen lid and can rapidly lead to blindness if untreated. Bacterial, viral and allergic conjunctivitis are common in all children. Conjunctivitis in infants is a serious disorder because of the immaturity of tissues and defence mechanisms.

Neonatal conjunctivitis (ophthalmia neonatorum)

This is conjunctivitis in an infant less than I month old and is a notifiable disease. Chlamydial and gonococcal infections are uncommon but must be considered if a purulent discharge is found in the first few days of life. *Chlamydia trachomatis* usually presents I or 2 wks after delivery, with moderate mucopurulent discharge.

Treatment is with oral erythromycin for 21d and local sulfacetamide.

N. gonorrhoeae conjunctivitis, which usually occurs within 1 or 2 days of delivery, requires vigorous treatment with intravenous cephalosporins or penicillin and local sulfacetamide drops.

Trachoma

Trachoma is a chlamydial conjunctivitis that is prevalent in outback areas and in the Aboriginal population. *C. trachomatis* is transmitted by human contact and by flies, esp. where hygiene is inadequate. It is the most common cause of blindness in the world. It is important to start control of the infection in childhood as outlined above.

For adults (and children > 6 kg): azithromycin 1g (o) once

Blocked nasolacrimal duct

Excessive eye watering in infants \pm mucus/mucopus is the key sign. Usually obvious 3–12 wks. In the majority of infants spont. resolution occurs by 6 mths

Management

- Local antibiotics for infective episodes, warm cotton wool for minor infection
- · Bathing with normal saline
- · Frequent finger massage over the lacrimal sac towards tip of nose
- Referral for probing and dilation of the lacrimal passage before 6 mths if the watering/discharge is profuse and irritating or between 6-12 mths if not self-corrected

Orbital cellulitis

Orbital cellulitis includes two basic types—periorbital (or preseptal) and orbital (or post-septal) cellulitis and is usually found in children.

Orbital (post-septal) cellulitis

Features

- · A potentially blinding and life-threatening condition
- In children blindness can develop in hours
- Unilateral swollen eyelids; may be red
- An unwell patient
- Tenderness over the sinuses (see Fig. 58)
- · Restricted and painful eye movements
- · Usually secondary to ethmoiditis
- Usually caused by H. influenzae

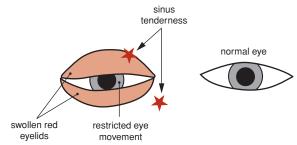


Figure 58 Important signs in the patient presenting with orbital (post-septal) cellulitis

Periorbital (pre-septal) cellulitis

- · Similar presentation
- · Usually follows an abrasion but
- · No pain or restriction of eye movement

Management (both types)

- · Immediate specialist referral
- IV cefotaxime until afebrile, then amoxycillin/clavulanate or di(flu)cloxacillin for 7–10 d

Red eye in adults Conjunctivitis

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Episcleritis and scleritis

Episcleritis and scleritis present as a localised area of inflammation. Both may become inflamed but episcleritis is essentially self-limiting while scleritis (which is rare) is more serious as the eye may perforate.

History A red and sore eye is the presenting complaint. There is usually no discharge but there may be reflex lacrimation. Scleritis is much more painful than episcleritis and tender to touch.

Management An underlying cause such as an autoimmune condition should be identified. Refer the patient, esp. for scleritis. Corticosteroids or NSAIDs may be prescribed.

Uveitis (iritis)

Anterior uveitis (acute iritis or iridocyclitis) is inflammation of the iris and ciliary body and this is usually referred to as acute iritis. The pupil may become small because of adhesions and the vision is blurred.

The affected eye is red with the conjunctival injection being particularly pronounced over the area covering the inflamed ciliary body (ciliary flush). The patient should be referred to a consultant.

Causes include auto-immune diseases such as the spondyloarthropathies, e.g. AS, sarcoidosis and some infections.

Management involves finding the underlying cause. Treatment includes pupil dilation with atropine drops and topical steroids to suppress inflammation. Systemic corticosteroids may be necessary.

Posterior uveitis (choroiditis) may involve the retina and vitreous and also requires referral.

Acute glaucoma

Acute glaucoma should always be considered in a patient over 50 yrs presenting with an acutely painful red eye. Permanent damage will result

from misdiagnosis. The attack characteristically strikes in the evening when the pupil becomes semidilated.

Features

- Patient > 50 yrs
- · Pain in one eye
- · ± Nausea and vomiting
- · Impaired vision
- Haloes around lights
- · Fixed semi-dilated pupil
- · Eve feels hard

Management Urgent ophthalmic referral is essential since emergency treatment is necessary to preserve eyesight. If immediate specialist attention is unavailable, treatment can be initiated with acetazolamide (Diamox) 500 mg IV and pilocarpine 4% drops to constrict the pupil.

Herpes zoster ophthalmicus

Herpes zoster ophthalmicus (shingles) affects the skin supplied by the ophthalmic division of the trigeminal nerve. The eye may be affected if the nasociliary branch is involved.

Immediate referral is necessary if the eye is red, vision is blurred or the cornea cannot be examined. Apart from general eye hygiene, treatment usually includes oral aciclovir, famciclovir or valaciclovir (provided this is commenced within 3d of the rash appearing), and topical aciclovir 3% opth. ointment 4 hrly.

Flash burns

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Eyelid and lacrimal disorders

There are several inflammatory disorders of the eyelid and lacrimal system that present as a 'red and tender' eye without involving the conjunctiva. Any suspicious lesion should be referred.

Stye

431

Chalazion (meibomian cyst)

May resolve spont. or require incision.

Blepharitis

¹ 74

Dacryocystitis

Acute dacryocystitis is infection of the lacrimal sac secondary to obstruction of the nasolacrimal duct at the junction of the lacrimal sac. The problem may vary from being mild (as in infants) to severe with abscess formation.

Management

- · Local heat: steam or a hot moist compress.
- Analgesics.
- Systemic antibiotics (best guided by results of Gram stain and culture) but initially use dicloxacillin.
- Measures to establish drainage are required eventually. Recurrent attacks or symptomatic watering of the eye are indications for surgery such as dacryocystorhinostomy.

Dacroadenitis

This is infection of the lacrimal gland presenting as a tender swelling on upper outer margin of eyelid. Many causes but usually viral (e.g. mumps). Treat conservatively with warm compresses. Antibiotics for a bacterial cause.

When to refer the patient with a red eye

- · Uncertainty about the diagnosis.
- · Deep central corneal and intraocular foreign bodies.
- Sudden swelling of an eyelid in a child with evidence of infection suggestive of orbital cellulitis—this is an emergency.
- Emergency referral is also necessary for hyphaemia, hypopyon, penetrating eye injury, acute glaucoma, severe chemical burn.

Summary for urgent referral:

- trauma (significant)/penetrating injury
- hyphaema > 3 mm
- · corneal ulcer
- · severe conjunctivitis
- uveitis/acute iritis
- · Behcet's syndrome
- · acute glaucoma
- · giant cell arteritis/temporal arteritis
- · orbital cellulitis
- · acute dacryocystitis
- keratitis
- · episcleritis/scleritis
- · herpes zoster ophthalmicus
- · endophthalmitis

Note: As a general rule, never use corticosteroids or atropine in the eye before referral to an ophthalmologist.

Practice tips for eye management

- Avoid long-term use of any medication, esp. antibiotics (e.g. chloramphenicol: course for a maximum of 10 days).
- As a general rule avoid using topical corticosteroids or combined corticosteroid/antibiotic preparations.
- · Never use corticosteroids in the presence of a dendritic ulcer.
- To achieve effective results from eye ointment or drops, remove debris such as mucopurulent exudate with bacterial conjunctivitis or blepharitis by using a warm solution of saline (dissolve a teaspoon of kitchen salt in 500 mL boiled water) to bathe away any discharge from conjunctiva, eyelashes and lids.
- Beware of the contact lens 'overwear syndrome', which is treated in a similar way to flash burns.

Eyelashes: ingrowing (trichiasis)

Perform epilation using eyebrow tweezers (available from chemists). Regular epilation may be necessary. Severe cases: electrolysis of hair roots.

Eyelid 'twitching' or 'jumping'

Could be a nervous condition or a focal dystonia \Box **207**. Advise that cause is usually stress or fatigue. Reassure and counsel. Consider prescribing clonazepam if severe.

Blepharospasm may be treated with botulinum toxin injection into the orbicularis oculi muscle.

Eyes: flash burns

Cause: intense ultraviolet light burns to corneas (keratitis) (e.g. arc welding, UV lamps, snow reflection)

Precautions: foreign bodies; continued use of topical anaesthetics (once only)

Treatment

- Topical long-acting LA drops (e.g. amethocaine) once only
- Homotropine 2% eye drops, 1–2 drops statim
- Broad-spectrum antibiotic eye ointment, bd in lower fornix (48 h)
- Analgesics (e.g. codeine + paracetamol)
- · Eye padding for 24 h then review

The eye usually heals completely in 48 h. If not, check for a foreign body. *Note*: Contact lens 'overwear syndrome' gives the same symptoms.



| F |

Facial pain

When a patient complains of pain in the face rather than the head the physician has to consider foremost the possibilities of dental disorders (which accounts for up to 90% of pain in and about the face), sinus disease, esp. of the maxillary sinuses, temporomandibular joint (TMJ) dysfunction, eye disorders, lesions of the oropharynx or posterior third of the tongue, trigeminal neuralgia and chronic paroxysmal hemicrania.

The key to the diagnosis is the clinical examination because even the most sophisticated investigation may provide no additional information.

Table 43 Pain in the face: diagnostic strategy model

Q. Probability diagnosis

- A. Dental pain
 - · caries
 - fractured tooth
 - periapical abscess Maxillary sinusitis
- Q. Serious disorders not to be missed
- A. Cardiovascular
 - · aneurysm of cavernous sinus
 - internal carotid aneurysm
 - ischaemia of posterior inferior cerebellar artery

Neoplasia

- carcinoma (e.g. mouth, sinuses, nasopharynx)
- metastases (e.g. orbital, base of brain)

Severe infections

periapical abscess → osteomyelitis

- acute sinusitis → spreading infection
- erysipelas
- Q. Pitfalls (often missed)
- A. TMJ dysfunction

Cervical spine dysfunction Migraine variants (continues)

- cluster headache
- · facial migraine
- · chronic paroxysmal hemicrania

Eye disorders: glaucoma, iritis, optic neuritis

Chronic dental neuralgia

Parotid gland: mumps,

carcinoma, sialectesis Glossopharyngeal neuralgia

Trigeminal neuralgia

Red flag pointers for facial pain

- · Persistent pain: no obvious cause
- · Unexplained weight loss
- · Trigeminal neuralgia: possible serious causes
- · Herpes zoster involving nose
- Person >60 years: consider temporal arteritis, malignancy

Cervical spinal dysfunction

The upper cervical spine can cause facial pain from lesions of C2 or C3 via the lesser occipital or greater auricular nerves which may give pain around the ear. It is important to remember that C2 and C3 share a common pathway with the trigeminal nerve.

Dental disorders

Dental caries, impacted teeth, infected tooth sockets and dental roots can cause pain in the maxillary and mandibular regions. Impacted third molars (wisdom teeth) may be associated with surrounding soft tissue inflammation, causing pain which may be localised to the mandible or radiate via the auriculotemporal nerve to the ear.

Features of dental caries

- Pain is usually confined to the affected tooth but may be diffuse.
- · Pain is almost always aggravated by thermal changes in the mouth:
 - cold—if dental pulp vital
 - hot—if dental pulp is necrotic
- · Pain may be felt in more than one tooth.
- Dental pain will not cross the midline.

Treatment of dental pain

- · Arrange urgent dental consultation
- Pain relief aspirin 600 mg (o) 4–6 hrly or paracetamol 0.5–1 g (o) 4–6 hrly
- If pain severe add codeine 30 mg (o) 4-6 hrly

Dental infection (e.g. tooth abscess) Dental treatment may relieve but if moderate to severe:

- · amoxycillin 500 mg (o) tds for 5 d
- Add if unresponsive:
- metronidazole 400 mg (o) 12 hrly for 5 d

If widespread (e.g. adjacent fascial infection) use parenteral antibiotics (e.g. procaine penicillin $\[\] g$ (IM) daily for $\[\] 5$ d).

Alveolar osteitis (dry tooth socket)

Refer for localised toileting. Usually heals naturally in 14 days. Antibiotics of no proven use.

Pain from paranasal sinuses

Infection of the paranasal sinuses may cause localised pain. Localised tenderness and pain may be apparent with frontal or maxillary sinusitis. Sphenoidal or ethmoidal sinusitis causes a constant pain behind the eye or behind the nose, often accompanied by nasal blockage.

Maxillary sinusitis The maxillary sinus is the one most commonly infected. It is important to determine whether the sinusitis is caused by stasis following an URTI or acute rhinitis or due to dental root infection.

Clinical features of acute sinusitis

- facial pain and tenderness
- · toothache
- · purulent postnasal drip
- · nasal discharge
- · nasal obstruction
- · rhinorrhoea
- · cough (worse at night)
- fever
- epistaxis
- · suspect bacterial cause if high fever and purulent nasal discharge

Clinical features of chronic sinusitis

- vague facial pain
- offensive postnasal drip
- · nasal obstruction
- toothache
- malaise
- halitosis

Management of maxillary sinusitis

- · Analgesics
- Antibiotics (first choice) (Sinusitis, ☐ 415)
 - amoxycillin 500 mg (o) tds for 7 d or
 - amoxycillin clavulanate 875/125 mg (o) tds for 7 d (if resistance to amoxycillin is suspected or proven or poor response to above)
- Nasal decongestants (oxymetazoline-containing nasal drops or sprays) only if congestion
- · Inhalations (a very important adjunct)

Invasive methods Surgical drainage may be necessary by atrial lavage or frontal sinus trephine.

Temporomandibular joint (TMJ) dysfunction

This condition is due to abnormal movement of the mandible, esp. during chewing. The basic cause is dental malocclusion.

Treatment of TMJ dysfunction

If organic disease, such as rheumatoid arthritis and obvious dental malocclusion is excluded, a special set of instructions or exercises can alleviate the annoying problem of TMJ arthralgia in about 3 wks.

Method 1: 'Chewing' a piece of soft wood

- Obtain a rod of soft wood ~5 cm long × 1.5 cm wide. An ideal object is a large carpenter's pencil.
- Instruct the patient to position this at the back of the mouth so that the molars grasp the object with the mandible thrust forward.
- The patient then rhythmically bites on the object with a grinding movement for 2–3 mins at least 3 times/d.

Method 2: The 'six by six' program This is a specific program recommended by some dental surgeons. The 6 exercises should be carried out 6 times on each occasion, 6 times a day, taking about 1–2 mins.

Injection into the TMJ Indications: painful rheumatoid arthritis, osteoarthritis or TMJ dysfunction not responding to conservative measures.

Trigeminal neuralgia

Trigeminal neuralgia ('tic douloureux') is a condition of often unknown cause which typically occurs in patients >50 yrs, affecting the 2nd and 3rd divisions of the trigeminal nerve and on the same side of the face. Brief paroxysms of pain, lasting on average I-2 mins often with associated trigger points, are a feature.

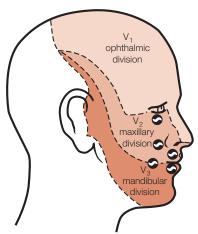


Figure 59 Trigeminal neuralgia: typical trigger points

Treatment

Note: Precise diagnosis is essential.

 Patient education, reassurance and empathic support is very important in these patients.

- Medical therapy:
 - carbamazepine (from onset of attack to resolution) 50 mg (elderly patients) or 100 mg (o) bd initially, gradually ↑ dose to avoid drowsiness every 4 d to 200 mg bd (maintenance); testing serum levels is unnecessary
 - alternative drugs if carbamazepine not tolerated or ineffective (but question the diagnosis if lack of response):
 - gabapentin 300 mg initially then increase as necessary phenytoin 300–500 mg/d clonazepam
- · Surgery: refer to a neurosurgeon if medication ineffective

Glossopharyngeal neuralgia

This is a rare condition with similar clinical features of severe laminating pains.

Sites: Back of throat around tonsillar fossa and adjacent fauces deep in ear.

May extend to external ear and neck.

Triggers: Swallowing, coughing, talking. *Treatment*: As for trigeminal neuralgia.

Facial migraine (lower half headache)

Migraine may rarely affect the face below the level of the eyes, causing pain in the area of the cheek and upper jaw. It may spread over the nostril and lower jaw. Pain is dull and throbbing and nausea and vomiting are commonly present. Treatment is as for other varieties of migraine.

Chronic paroxysmal hemicrania

In the rare condition of chronic or episodic paroxysmal hemicrania there is a unilateral facial pain that can resemble chronic cluster headache but the duration is briefer, about 15 mins, and it may recur many times a day even for years. It responds specifically, sometimes dramatically, to indomethacin.

Herpes zoster and postherpetic neuralgia

Herpes zoster may present as hyperaesthesia or a burning sensation in any division of the 5th nerve, esp. the ophthalmic division.

Atypical facial pain

This is mainly a diagnosis of exclusion whereby patients, usually middle-aged women, complain of diffuse pain in the cheek (unilateral or bilateral) without demonstrable organic disease or which does not conform to a specific nerve distribution. It is usually described as deep-seated, severe, continuous and 'boring'.

Treatment

- dothiepin or amitriptyline 50-150 mg nocte or
- · other appropriate antidepressant

Fatty liver

This is an abnormal build-up of fat in liver cells. Rarely serious.

There are 2 types:

- · simple (hepatic steatosis)
- steatohepatitis (uncommon)—inflammation; potentially serious Causes—big 3:
- alcohol excess
- obesity
- · diabetes

Also

- · crash diet
- starvation/protein ↓
- high blood pressure
- · drugs, e.g. steroids

Usu. asymptomatic or fatigue. May be hepatomegaly.

Treat cause, e.g. diabetes, obesity

Fever and chills

Facts and figures

- Fever plays an important physiological role in the defence against infection.
- Normal body temp. (measured orally) is 36–37.3°C (av. 36.8°C). There
 is considerable diurnal variation in temperature so that it is higher in
 the evening by ~o.6°C.
- Normal average values (morning):
 - Oral 36.8°C
 - Axilla 36.4°C
 - Rectum 37.3°C
- Fever (pyrexia):
 - Morning oral > 37.2°C
 - Evening oral > 37.8°C
- Fevers due to infections have an upper limit of 40.5-41.1°C (105-106°F).
- Hyperthermia (temp. >41.1°C) and hyperpyrexia appear to have no upper limit.
- Infection remains the most important cause of acute fever.
- Symptoms associated with fever include sweats, chills, rigors and headache.
- Drugs can cause fever (e.g. allopurinol, antihistamines, barbiturates, cephalosporins, cimetidine, methyldopa, penicillins, isoniazid, quinidine, phenolphthalein, inc. laxatives, phenytoin, procainamide, salicylates, sulphonamides).

Fever of less than 3 days duration

- · Usually due to self-limiting viral URTI.
- · Watch out for an infectious disease, UTI, pneumonia or other infection.
- · Consider routine urine examination.
- · Most can be managed conservatively.

Fever present for 4-14 days

If fever persists beyond 4–5 days a less common infection should be suspected since most common viral infections will have resolved by about 4 days (e.g. Epstein–Barr mononucleosis, PID, drug fever, zoonosis, travel acquired infection, abscess inc. dental abscess).

Fever in children

Fever is usually a response to a viral infection. Consider a fever of $\geq 38.5^{\circ}$ C as significant and warranting close scrutiny. Fever itself is not harmful until it reaches 41.5° C. Temperatures $> 41^{\circ}$ C are usually due to CNS infection or the result of human error, e.g.:

- shutting a child in a car on a hot day
- overwrapping a febrile child

Complications include dehydration (usually mild) and febrile convulsions.

Management

- · Treatment of low-grade fevers should be discouraged.
- · Treatment of high-grade fevers includes:
 - treatment of the causes of the fever (where appropriate) +
 - adequate fluid intake
 - paracetamol (acetaminophen) is the preferred antipyretic since aspirin is potentially dangerous in young children. The usual dose of 10–15 mg/kg every 4–6 h may represent undertreatment. Use 20 mg/kg as loading dose and then 15 mg/kg maintenance.

Evidence favours tepid sponging for 30 mins + paracetamol.

Advice to parents

- Dress the child in light clothing (stripping off is unnecessary).
- Do not overheat with too many clothes, rugs or blankets.
- Give frequent small drinks of light fluids, esp. water.
- Sponging with cool water and using fans is not effective.

Febrile convulsions

Features

- The commonest cause is an upper respiratory infection.
- Rare < 6 mths and > 5 yrs.
- Commonest age range 9-20 mths.
- Recurrent in up to 50% of children.
- · Consider meningitis.

- Perform lumbar puncture after first convulsion if < 2 yrs or cause of fever not obvious.
- Epilepsy develops in about 2-3% of such children.

Management of the complex seizure (prolonged: >15 min)

- · Undress the child to singlet and underpants to keep cool.
- · Maintain the airway and prevent injury.
- Place patient chest down with head turned to one side.
- · Give oxygen 8 L/min by Hudson mask.
- Give midazolam o.i-o.i5 mg/kg IV or o.2 mg/kg IM or intranasal or diazepam by one of two routes:
 - IV 0.2 mg/kg, undiluted or diluted (10 mg in 20 mL N saline) or
 - rectally 0.5 mg/kg (dilute with saline or in pre-prepared syringe).
 Can be given as a suppository or rectal gel.
- Repeat after 5 mins if necessary but watch for respiratory depression (needs ventilation).
- · Check blood glucose.
- Administer paracetamol once convulsion ceases, orally if conscious, rectally (15 mg/kg) if drowsy.

Fever of undetermined origin (FUO)

FUO, also referred to as pyrexia of unknown origin (PUO), has the following criteria:

- · illness for at least 3 wks
- fevers > 38.3°C (100.9°C)
- undiagnosed after I wk of intensive study

Most cases represent unusual manifestations of common diseases and not rare or exotic diseases. Examples are shown in Table 44.

Investigations Basic investigations include:

- · haemoglobin, red cell indices and blood film
- white cell count
- · ESR/CRP
- · chest X-ray and sinus films
- · urine examination (analysis and culture)
- routine blood chemistry
- · blood cultures

Other investigations are based on the clinical picture.

Fibroids (leiomyoma)

These benign tumours of uterine smooth muscle are oestrogen dependent and shrink with onset of menopause. Usu. asymptomatic.

Symptoms

· menorrhagia

Table 44 Common causes of FUO

Common examples of each group selected

Infection (40%)

Bacteria, e.g.

- · pyogenic abscess (e.g. liver, pelvic)
- · urinary infection
- · biliary infection (e.g. cholangitis)
- · infective endocarditis
- · chronic septicaemia
- tuberculosis
- · osteomyelitis

Viral, rickettsial, Chlamydia, e.g.

- Epstein-Barr mononucleosis
- · cytomegalovirus
- Q fever
- HIV virus infection (AIDS, ARC)

Parasitic

- malaria
- toxoplasmosis

Malignancy (30%)

Reticuloendothelial

- leukaemia
- lymphomas

Solid (localised) tumours, e.g.

- kidney
- liver
- lung

sarcoma

Disseminated

Immunogenic (20%)

Drugs

Connective tissue diseases/ vasculitides, e.g.

- rheumatic fever
- · systemic lupus erythematosus
- polyarthritis nodosa

Sarcoidosis

Inflammatory bowel disease, e.g. Crohn

Factitious (1-5%)

Remain unknown (5-25%)

- dysmenorrhoea
- pelvic discomfort ± pain (from pressure)
- bladder dysfunction
- · subfertility (acts like IUCD if submocosal)

Investigation

- pelvic US
- FBE ? anaemia
- · uterine biopsy (suspected malignancy)

Management

- · consider COCP for menorrhagia
- Gn RH analogues, esp. >42 yrs (max. 6 mths)
- · surgical options:
 - myomectomy (remove fibroids only)
 - hysteroscopic resection
 - hysterectomy

Fibromyalgia syndrome

Fibromyalgia appears to be a form of neural dysfunction but without demonstrable neural deficits on clinical testing, that presents as musculoskeletal symptoms. It presents an enormous management problem. It is not to be confused with so-called fibrositis or tender trigger points.

The main diagnostic features are:

- I a history of widespread pain (neck to low back)
- 2 pain in 11 of 18 painful points on digital palpation

Other features

- Female:male ratio = 4:1
- Usual age 29–37: diagnosis 44–53
- · Poor sleep pattern
- Fatigue (similar to chronic fatigue syndrome)
- Psychological disorders (e.g. anxiety, depression)
- · Others (e.g. headache, irritable digestive tract)

Patients require considerable explanation, support and reassurance. It is difficult to treat. The best evidence to date supports the value of educational programs and regular aerobic exercise.

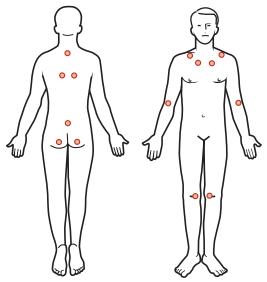


Figure 60 Fibromyalgia syndrome: typical tender points (the tender point map represents the 14 points recommended for use as a standard for diagnostic or therapeutic studies)

Treatment

- · Explanation, reassurance and counselling
- Attention to sleep disorders, stress factors and physical factors
- Rehabilitation exercise program (e.g. walking, swimming or cycling)
- Paracetamol (max. dose 4 g/d) for pain (first line)
- Psychotherapy/cognitive behaviour therapy

Medication Consider as a trial:

 antidepressants (of proven short-term value), e.g. amitriptyline (10–75 mg nocte), doxepin (25–75 mg nocte) or duloxetine 30 mg nocte to 60 mg in 2 wks

Note: NSAIDs are of no proven value.

Flatus: excessive

Flatus arises from two main sources:

- swallowed air (aerophagia)
- · bacterial fermentation of undigested carbohydrate

Exclude

- malabsorption
- · irritable bowel syndrome
- anxiety → aerophagy
- · drugs, esp. lipid-lowering agents
- · lactose intolerance

Management

- Assess diet (e.g. high fibre, beans and legumes, cabbage, onions, grapes and raisins)
- · Avoid drinking with eating, esp. with leafy vegetables
- · Cook vegetables thoroughly
- · Trial of a lactose-free diet
- · Consider simethicone preparations (e.g. No Gas)

Floaters and flashers of eyes

As a rule they are not serious.

- Floaters = normal ageing esp. > 55 yrs; posterior vitreous detachments, haemorrhage or choroiditis
- Flashing lights = normal ageing esp. >55 yrs; posterior vitreous detachment or indicates traction on retina (?retinal detachment).
- Reassure patient and suggest specialist review. Appearance of a fresh onset is of concern re retinal detachment.

Folliculitis

A generalised acute erythematous maculopapular rash can be a manifestation of bacterial folliculitis, typically caused by *S. aureus* and *Pseudomonas aeruginosa*.

Pseudomonas folliculitis can cause confusion, the typical features being:

- rapidly spreading rash
- mainly on trunk, buttocks and thighs
- · itchy

- · small pustules surrounded by circular red-purple halo
- follows immersion in a hot spa bath or tub

Treatment is based on the sensitivity of the cultured organisms (e.g. ciprofloxacin).

Folliculitis: of groin Folliculitis of the groin area is common in women who shave and tends to recur.

- · Use tea-tree lotion daily for folliculitis.
- Prior to shaving apply 'tea-tree wash'.
- If persistent, use povidone-iodine or chlorhexidine (Hibiclens) solution.
- If severe, use mupirocin 2% (Bactroban) ointment.

Folliculitis: of trunk from spa baths Due to *Pseudomonas aeruginosa* or *S. aureus* (in poorly chlorinated water maintained at 37–40°C).

• Rx—ciprofloxacin 500 mg (o) bd for 7 d

Foot odour (smelly and sweaty feet)

Includes pitted keratolysis secondary to hyperhidrosis (common in teenagers).

Treatment (with options)

- · Education and reassurance
- · Wear cotton or woollen socks
- Aluminium chloride 20% in alcohol solution (Driclor, Hidrosol) or Neat feet—apply nocte for I wk, then I-2 times wkly as necessary
- Shoe liners (e.g. Odor eaters; charcoal inner soles)
- Apply undiluted Burow's solution after a shower or bath
- Formalin 1-5% soaks every second night
- Iontophoresis
- The teabag treatment (if desperate)
 - prepare 600 mL strong hot tea (from 2 teabags left in water for 15 mins)
 - pour hot tea into a basin with 2 L cool water
 - soak feet in this for 20–30 mins daily for 10 d, then as often as required

Foot pain (podalgia)

Serious disorders not to be missed The very important serious disorders to consider include:

- · vascular disease-affecting small vessels
- · diabetic neuropathy
- · osteoid osteoma/other tumours
- · rheumatoid arthritis
- complex regional pain syndrome 1

- · foreign bodies (e.g. needles, in children)
- · ruptured tendons—Achilles, tibialis posterior

Vascular causes

The main problem is ischaemic pain that occurs only in the foot. The commonest cause is atheroma.

Symptoms:

- claudication (rare in isolation)
- · sensory disturbances, esp. numbness at rest or on walking
- rest pain—at night, interfering with sleep, precipitated by elevation, relieved by dependency

Complex regional pain syndrome 1

Originally known as reflex sympathetic dystrophy, usually a sequel of trauma, usually lasts 2 yrs and recovery to normality usually follows.

Clinical features include sudden onset in middle-aged patients, pain worse at night, stiff joints and skin warm and red. X-rays that show patchy decalcification of bone are diagnostic.

Treatment includes reassurance, analgesics, mobility in preference to rest and physiotherapy.

Osteoid osteoma

Benign tumours of bone that typically occur in older children and adolescents. Nocturnal pain is a prominent symptom with pain relief by aspirin being a feature.

Diagnosis is dependent on clinical suspicion and then X-ray, which shows a small sclerotic lesion with a radiolucent centre. Treatment is by surgical excision.

Osteochondritis/aseptic necrosis

Three important bones to keep in mind are:

- · the calcaneum—Sever's disease
- · the navicular—Kohler's disease
- the head of the second metatarsal—Freiberg's disease

Sever's disease is traction osteochondritis while the other disorders are a 'crushing' osteochondritis with avascular necrosis.

Skin disorders

Two conditions commonly seen in teenagers are pitted keratolysis and juvenile plantar dermatosis.

Pitted keratolysis This malodorous condition which has a pitted 'honeycomb' appearance is usually seen at 10–14 yrs. Known as 'moccasin foot', 'stinky feet' or 'sneaker's' feet, it is related to sweaty feet. Treatment includes keeping the feet dry, wearing all-leather shoes, cotton or woollen

socks (not synthetics), charcoal inners and using an ointment such as Whitfield's or an imidazole or sodium fusidate to remove the responsible *Corynebacterium* organism.

Use a drying agent to decrease sweating. Preparations include formal-dehyde soaks nocte or aluminium chloride 20% in alcohol solution (e.g. Driclor, Hidrosol, Neat feet) applied nocte for I wk then I-2 times/wk.

Juvenile plantar dermatosis 'Sweaty sock dermatitis' is a painful condition of weightbearing areas of the feet. The affected skin is red, shiny, smooth and often cracked. It usually starts in school years and resolves in mid-teens and is rare in adults. The treatment is to change to leather or open shoes and to cotton socks. A simple emollient cream gives excellent relief.

Arthritic conditions

Arthritis of the foot or ankle is caused by osteoarthritis (commonly), rheumatoid arthritis, gout and the spondyloarthropathies (uncommon).

Foot strain

Foot strain is probably the commonest cause of podalgia. A foot may be strained by abnormal stress or by normal stress for which it is not prepared. In foot strain the supporting ligaments become stretched, irritated and inflamed. It is commonly encountered in athletes who are relatively unfit or who have a disorder such as flat feet. The strain may be acute or chronic. Symptoms and signs:

- aching pain in foot and calf during or after prolonged walking or standing
- initial deep tenderness felt on medial border of plantar fascia

Treatment Acute strain is treated with rest and by reducing walking to a minimum. Try the application of cold initially and then heat. The management of chronic strain is based on an exercise program and orthotics, including arch supports, to correct any deformity.

Metatarsalgia

Refers to pain and tenderness over the plantar heads of metatarsals. Causes include foot deformities (esp. with depressions of the transverse arch), arthritis of the MTP joints, trauma, Morton's neuroma, Freiberg's disorder and entrapment neuropathy.

Treatment involves treating any known cause, advising proper footwear and perhaps a metatarsal bar.

Stress fractures

Clinical features

- · Aches or pains may be slow in onset or sudden.
- A bone scan is the only way to confirm the suspected diagnosis.

- Basis of treatment is absolute rest for 6 or more wks with strong supportive footwear.
- · A walking plaster is not recommended.

Stress fractures can occur in:

- the base of 5th metatarsal (an avulsion fracture)
- · neck of metatarsal (usually second)—the 'march' fracture
- tarsal bones, esp. the navicular (mainly athletes)

Morton's neuroma

Probably misdiagnosed more often than any other painful condition of the forefoot.

Clinical features

- Usually presents in adults < 50
- · Four times more common in women
- Bilateral in 15% of cases
- Commonest between 3rd-4th metatarsal heads (Fig. 61), then 2nd-3rd
- Severe burning pain between 2nd-3rd or 3rd-4th toes
- · Worse on weight-bearing on hard surfaces (standing and walking)
- Aggravated by wearing tight shoes

Treatment Early problems are treated conservatively by wearing loose shoes with a low heel and using a sponge rubber metatarsal pad or a special orthosis. Most eventually require surgical excision, preferably with a dorsal approach.

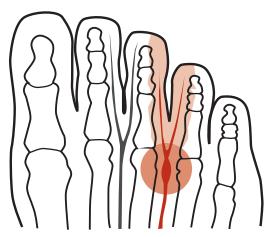


Figure 61 Morton's neuroma: typical site and pain distribution

Foot ache

Treatment

- · Avoid wearing high heels.
- · Wear insoles to support the foot arch.
- · Perform foot exercises.
- Soak the feet in a basin of warm water containing therapeutic salts (Epsom salts is suitable).
- Massage feet with baby oil followed by a special ribbed wooden foot massager.

Callus, corn and wart

Diagnosis of localised, tender lumps on the sole of the foot can be difficult.

Calluses

- · Remove the cause.
- Proper footwear is essential, with cushion pads over callosities.
- · Pare with a sterile sharp scalpel blade.
- Daily applications of 10% salicylic acid (SA) in soft paraffin with regular paring (if severe).

Corn Hard corns:

- · Remove source of friction and use wide shoes.
- · Use corn pads with low-strength SA.
- Soften corn with a few daily applications of 15% SA in collodion or commercial 'corn removers' (salicylic acid), then pare carefully.

Soft corns (in webbing toes):

- · Keep dry.
- · Pare and curette hard core.
- · Keep webbing apart with wool preparation or cigarette filter tips.

Plantar warts

- Pare wart with a 21g scalpel blade
- Apply Upton's paste (salicylic acid + trichloracetic acid) to wart each night and cover (after paring) or
- Apply salicylic acid 16% + lactic acid 16% in collodion paint daily or
- Apply paste of 70% salicylic acid in raw linseed oil after paring.
 Occlude for I wk, review, pare, apply liquid nitrogen, review or
- Apply liquid nitrogen. Repeat in 1 wk, then as necessary

Ingrowing toenails

□ 308

Paronychia

□ 382

Table 45 Comparison of the main causes of a lump on the sole of the foot

	Typical site	Nature	Effect of paring
Callus	where skin is normally thick; beneath heads of metatarsals, heels, inframedial side of great toe	hard, thickened skin	normal skin
Corn	where skin is normally thin; on soles, fifth toe, dorsal projections of hammer toes	white, conical mass of keratin flattened by pressure	exposes white, avascular corn with concave surface
Wart	anywhere, mainly over metatarsal heads, base of toes and heels; has bleeding points	viral infection, with abrupt change from skin at edge	exposes bleeding point

Freckles and lentigines (sun spots)

- · Reassure patient.
- · Use a sunscreen.
- Otherwise, rather than use 'fade cream', use fresh lemon juice. Squeeze lemon juice (½ lemon) into small bowl and apply the juice with a cotton ball to the spots daily. Continue for 8 wks.
- Apply tretinoin 0.05% cream daily at night, if necessary.

Frostbite

Treatment depends on severity.

Precautions: watch for secondary infection, tetanus, gangrene

Physical treatment

- · Elevate affected limb.
- Rewarm in water just above body temperature 40°C (104°F) or use body heat (e.g. in axillae).
- · Avoid thawing or refreezing.
- Surgical debridement.
- · Don't debride early (wait until dead tissue dried).
- · Don't drink alcohol or smoke.
- For blistering, apply warm water compresses for 15 mins every 2 h. Drug Rx: analgesics



| G |

Gambling

Problem or pathological gambling is persistent and recurrent maladaptive gambling behaviour despite its detrimental effect (disruption of personal, family or work life). It is undoubtedly a dependence disorder similar to alcohol and other drugs with a similar approach to management.

Prevalence: 0.5-1.5% of adult population

Dangers

- · Suicide risk (high)
- Major depression (up to 75%)
- · Stress-related problems
- Domestic violence

Key warning signs

- Gambling > \$100 wk
- · Chasing losses

Other telltale signs

- · Spending many hours gambling
- · Placing larger, more frequent bets
- · Lying about behaviour
- Being secretive
 - · Promising cutting back but not doing it
- Impulsive activity
- Mood swings
- Gambling at expense of other pleasant social activities
- Growing debts
- · Excessive drinking

Management

- · Ask (as part of social history)
- · Consider South Oaks Gambling screen
- · Firm confrontation if suspected
- · Consider using the Prochaska and Di Clemente model of change
- Give education and basic counselling
- Look at family? domestic violence
- Advise family not to provide 'rescue money'
- · Refer for specialist counselling if necessary
- · Drug treatment inadvisable

Ganglion

Firm cystic lumps associated with joints or tendon sheaths.

Management

- · Can be left to wait and see.
- · Do not 'bang with a Bible'.
- · Needle aspiration and steroid injection:
 - insert 21 g needle with 5 mL syringe
 - aspirate some of contents and change syringes
 - inject 0.5 mL corticosteroid (depot)
 - can be repeated with 0.25 mL in a few wks
- · Surgical excision (can be difficult)

Gastroenteritis

In children

An illness of acute onset, of less than IO days duration associated with fever, diarrhoea and/or vomiting, where there is no other evident cause for the symptoms.

Prevention: Rotavirus vaccine < 6 mths

Causes

- Viral (80%): mainly rotavirus, norovirus and adenovirus
- Bacterial: C. jejuni & Salmonella sp. (two commonest), E. coli & Shigella sp.
- Protozoal: Giardia lamblia, Entamoeba histolytica, Cryptosporidium
- · Food poisoning—staphylococcal toxin

Note: Dehydration from gastroenteritis is an important cause of death, particularly in obese infants (esp. if vomiting accompanies the diarrhoea).

Exclude acute appendicitis and intussusception in the very young.

Symptoms

- Anorexia, nausea, poor feeding, vomiting, fever, diarrhoea (fever and vomiting may be absent)
- Fluid stools (often watery) 10–20/d
- · Crying due to pain, hunger, thirst or nausea
- · Bleeding uncommon (usually bacterial)
- · Anal soreness

Assessment of dehydration The simplest way is by careful clinical assessment (e.g. urine output, vomiting, level of thirst, activity, pinched skin test). The most accurate way is to weigh the child, preferably without clothes, on the same scale each time. It is usual to classify dehydration as:

- · mild: normal signs, inc. urine output
- moderate: irritable, lethargic, dry mucous membranes, decreased urine
- severe: very sick child, no urine output

Management Management is based on the assessment and correction of fluid and electrolyte loss.

Avoid:

- · Drugs—antidiarrhoeals, antiemetics and antibiotics
- Lemonade—osmotic load too high: can use if diluted 1:6 in water

To treat or not to treat at home

- Treat at home—if family can cope, vomiting is not a problem and no dehydration.
- Admit to hospital—if dehydration or persisting vomiting or family cannot cope; infants < 6 mths; high-risk patients.
- Keep child isolated from other children until settled. Maintain hygiene, carers wash hands carefully and careful nappy disposal.

Advice to parents (for mild-to-moderate diarrhoea)

General rules

- Give small amounts of fluids often.
- · Start solids after 24 hrs.
- Continue breastfeeding (can be increased) or start bottle-feeding after 24 h.
- · Provide maintenance fluid and fluid loss.

Day I Give fluids, a little at a time and often (e.g. 50 mL every 15 mins if vomiting a lot). A good method is to give 200 mL (about 1 cup) of fluid every time a watery stool is passed or a big vomit occurs.

Ideal fluid is Gastrolyte or New Repalyte. Other suitable oral rehydration preparations are WHO recommended solutions Electrolade and Glucolyte.

A useful product is Hydralyte paediatric rehydration which is a solution as an 'icy pole' formulation.

Alternatives are:

- lemonade (not low-calorie): 1 part to 6 parts water
- sucrose (table sugar) or glucose: 1 to 120 mL water
- cordials (not low-calorie): 1 part to 16 parts water
- · fruit juice: 1 part to 4 parts water

Days 2 and 3 Reintroduce the baby's milk or formula diluted to half strength (i.e. mix equal quantities of milk or formula and water).

Day 4 Increase milk to normal strength and gradually reintroduce the usual diet.

Severe dehydration

- · Admit to hospital.
- · Urgent IV infusion of isotonic fluid.

Method of assessing fluid requirements

Fluid loss (mL) = % dehydration \times body weight (kg) \times 10

Maintenance (mL/kg/24 h): i-3 mth: i20 mL; 4-i2 mth: i00 mL; > i2 mth: 80 mI.

Allow for continuing loss, e.g. 8-mth 10-kg child with 5% dehydration

- Fluid loss = $5 \times 10 \times 10 = 500 \,\text{mL}$
- Maintenance = 100 × 10 = 1000 mL

Total 24-h requirement (minimum) = 1500 mL

Approximate average hrly requirement = 60 mL

- Aim to give more (replace fluid loss) in the first 6 hrs.
- Rule of thumb: 100 mL/kg (infants) and 50 mL/kg (older children) in first 6 h.

Gastroparesis (gastropathy) in adults

Severely delayed gastric emptying is moderately common.

Symptoms

- · upper abdominal discomfort
- · early satiety
- nausea; vomiting (1-3h after meals)

Common causes

- · diabetic gastroparesis
- post surgery, e.g. vagotomy, fundoplication
- · idiopathic

Diagnosis

- endoscopy → gastric residue
- · barium swallow + follow through
- · 'nuclear' gastric emptying test

Management

· diet—small meals, avoid fats and doughy bread

Consider

- · motilium, metoclopramide or erythromycin
- pyloric injection botulinum toxin

Genetic disorders

Genetic testing is now available for many common hereditary disorders, such as the *HFE* genes for haemochromatosis. Presymptomatic DNA tests are available for the hereditary neurological disorders, such as Huntington disease, and predictive DNA testing is available for some forms of hereditary cancer, such as breast and colon cancer, and in the future for cardiovascular disease and diabetes

Carrier screening The presence of common mutations in severe recessive (autosomal and X-linked) disorders means that carrier screening in a community can be performed.

The disorders for which this commonly occurs are:

- · Thalassaemia
- · Tay Sachs Disease
- · Cystic fibrosis

Specific important genetic disorders

- Haemochromatosis: an autosomal recessive (AR) disorder (267)
- Thalassaemia: AR (🗅 29)
- Cystic fibrosis: AR (178)
- Neurofibromatosis: AD two types:
 - NFl—peripheral type (von Recklinghausen's disorder) light-brown skin patches + skin tumours + axillary freckles
 - NF2—central type, bilateral acoustic neuromas
 - No specific treatment: refer to a neurofibroma clinic
- · Duchenne muscular dystrophy:
 - X-linked recessive condition
 - male child + gait disorder + bulky calves
 - most are wheelchair bound by 10-12 yrs
 - most die of respiratory problems by age 20
- · Glucose-6-phosphate dehydrogenase deficiency (favism)
 - neonatal jaundice (check those at risk)
 - most symptomless
 - episodic acute haemolytic anaemia triggered by antioxidants, infections, some drugs & fava bean
- Galactosaemia
 - autosomal recessive disorder (1/60,000 births)
 - inability to metabolise galactose to glucose
 - infants become anorexic and jaundiced with milk
 - management is lactose-free formula e.g. soy
- · Familial hyperlipoproteinaemia
 - familial hypercholesterolaemia
 - familial combined hyperlipidaemia
 - homozygous patients → atherosclerotic disease in childhood
 - heterozygous patients manifest in 30s or 40s

Inherited adult onset neurological disorders

- · Huntington disease: autosomal dominant (AD)
 - chorea + abnormal behaviour + dementia
 - onset usually 35-55 yrs
 - usually fatal outcome 15–20 yrs
 - offspring have I in 2 risk
 - no current cure or specific treatment
- Creutzfeldt–Jacob disease & other prion diseases
- · Familial Alzheimer disease
- Familial epilepsy

- · Familial motor neurone disease
- · Muscular dystrophies & myotonic dystrophy
- · Friedreich's ataxia
- Others

Hereditary haemoglobinopathies and haemolytic disorders

- Thalassaemias
- · Sickle cell disorders esp. in Africans
- · Hereditary spherocytosis
- · G-6-PD deficiency

Bleeding disorders

- · Haemophilia A & B
- · Von Willebrand's disease
- · Inherited thrombocytopenia
- · Hereditary haemorrhagic telangiectasia

Thrombophilia

- · Factor V Leiden gene mutation
- · Prothrombin gene mutation
- · Protein C deficiency
- · Protein S deficiency
- · Antithrombin deficiency

Chromosomal/microdeletion syndromes (childhood expression)

- Down syndrome (🗅 105)
- Fragile X syndrome (□ 106)
- Prader–Willi syndrome (🗅 106)
- Williams syndrome (1 106)
- Noonan's syndrome (AD):
 - characteristic facies + short stature + pulmonary stenosis
 - affects both sexes
- Tuberous sclerosis (epiloia) (AD):
 - facial rash + intellectual disability + seizures
- Marfan syndrome (AD):
 - tall stature + dislocated lens and myopia + aortic root dilatation (prone to dissection)
 - high arched palate
 - long digits—arachnodactyly
 - mitral valve prolapse

Sex chromosome abnormalities

· Klinefelter's syndrome

- XXY genotype
- lanky men + small testes + infertility ± intellectual disability
- treatment: transdermal testosterone
- · Turner's syndrome
 - XO karyotype
 - short stature + webbed neck + typical facies

Fetal alcohol syndrome

- · Caused by teratogenic effects of alcohol
- Typical facies + growth retardation + microcephaly
- Skeletal abnormalities

Familial cancer

Although the majority of cancers are not inherited, some people carry inherited genetic mutations for certain cancers, notably breast and ovarian (linked), colorectal and others on a lesser scale, such as prostate and melanoma

Key points

- 5% (at least) of cancers are familial
- · AD inheritance (i.e. 50% of offspring affected)
- · Main cancers:
 - hereditary breast-ovarian cancer syndrome (BRCA1 and BRCA2 genes)
 - hereditary non-polyposis colorectal cancer (HNPCC)
 - familial adenomatous polyposis (FAP)

Risk indicators

- Two or more first- or second-degree relatives on one side of family with cancer
- Age of onset < 50 yrs
- · Bilateral or multifocal breast cancer

Prevention

- · Identify familial cancer risk—refer to a familial cancer clinic
- · Breast cancer—regular imaging
- · Ovarian cancer:
 - transvaginal ultrasound
 - serum CA-125 test
- Bowel cancer (high risk)
 - HNPCC: annual or 2-yrly colonoscopy from 25 yrs or 5 yrs younger than youngest affected family member
 - FAP: every 12 mths from 10–15 yrs to 30–35 yrs, then every 3 yrs after 35

Genital herpes

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Genital warts

Treatment Counselling and support are necessary. Not all genital warts are sexually transmitted. Prevention—HPV vaccination.

For small numbers of readily accessible warts the simplest treatment is:

- podophyllotoxin 0.5% paint or 0.5% cream
 - apply bd with plastic applicator for 3 d
 - repeat in 4 d and then wkly for 4-6 cycles (if nec.)

Note: Spare the normal surrounding skin. Avoid on cervical, meatal or anorectal warts. Do not use in pregnancies. or

- · cryotherapy wkly until resolved or
- imiquimod cream applied by the patient 3 times/wk to each wart for 12-24 wks until cleared

All females (inc. partners of males with warts) should be referred to a specialised clinic where colposcopy is available because of the causal link of warts to cervical cancer.

Use hydrocortisone 1% cream tds for any irritation.

Geographical tongue (erythema migrans)

(see also 🗅 446)

Consider excess stress, tobacco, marijuana and spicy foods (may aggravate).

- Explanation and reassurance—a self-limiting condition
- No treatment if asymptomatic
- · Cepacaine gargles, 10 mL tds, if tender
- If persistent and troublesome, low-dose inhaled glucocorticoid (e.g. beclomethasone 50 mcg tds) (don't rinse after use)

Gingivitis

- · Use dental floss regularly (twice a day).
- Brush carefully at gumline with Sensodyne (pink) or similar toothpaste.
- · Perform gum massage between thumb and index finger.
- Use Listerine mouthwash or dilute hydrogen peroxide.

For bacterial gingivitis

- Mild disease
 - chlorhexidine o.2% mouthwash 10 mL bd for 10 d held in mouth for 2 mins or can be directly irrigated by a syringe

- · Moderate to severe
 - phenoxymethyl penicillin or amoxycillin (o) ± metronidazole
- (Vincents) necrotising ulcerative gingivitis
 - procaine penicillin IM daily for 3-5 d then
 - phenoxymethylpenicillin (o)

Glandular fever

Epstein-Barr mononucleosis (EBM)

EBM (infectious mononucleosis, glandular fever) is a febrile illness caused by the herpes (Epstein–Barr) virus. It can mimic diseases such as HIV primary infection, streptococcal tonsillitis, cytomegalovirus, toxoplasmosis, viral hepatitis and acute lymphatic leukaemia.

It may occur at any age but usually between 10–35 yrs, commonest in 15–25 yr olds.

Diagnosis

- WCC—absolute lymphocytosis
- · Blood film—atypical lymphocytes
- +ve Paul Bunnell test
- EBV specific viral capsule antigen (IgM, IgG) antibodies (most reliable)

Prognosis EBM usually runs an uncomplicated course over 6–8 wks. Major symptoms subside within 2–3 wks. Patients should be advised to take about 4 wks off work.

Common complications are antibiotic-induced skin rash, hepatitis, depression, prolonged debility.

Treatment

- Supportive measures (no specific treatment)
- Rest (the best treatment) during the acute stage, preferably at home and indoors
- · Aspirin or paracetamol to relieve discomfort
- Gargle soluble aspirin or 30% glucose to soothe the throat
- Advise against: alcohol, fatty foods, continued activity, esp. contact sports
- Corticosteroids for various complications (e.g. neurological)
 Be cautious of giving penicillins, esp. ampi/amoxycillin in misdiagnosed cases of EBM tonsillitis. It may precipitate a severe rash.

Post-EBM malaise Some young adults remain debilitated and depressed for some months. Lassitude and malaise may extend up to a year or so.

Globus hystericus

Globus sensation (globus hystericus) appears to be associated with psychological stress.

Features

- · Sensation of being 'choked up' or 'something stuck' or lump in throat
- · Not affected by swallowing
- · Eating and drinking may lead to relief
- Normal investigations

Treatment

- · Usually settles with education, reassuring support and time
- · No drug of proven value
- · Treat any underlying psychological disorder

Gout (monosodium urate crystal disease)

Management of acute attack

- Bed rest
- Keep weight of the bedclothes off the foot with a bed cradle or pillow under bedclothes
- Indomethacin 50 mg (o) tds (if tolerated) until symptoms abate (usu. 3-5 d) then taper 25 mg tds until cessation of attack or
- If extreme, 100 mg (o) statim, 75 mg 2 h later, then 50 mg (o) 8 hrly, then 50-70 mg/d until total relief. Relief can be expected in 24-48 h.
 Note: Any other NSAID can be used.
- Add an antiemetic (e.g. metoclopramide 10 mg (o) tds) or
- Colchicine 0.5 mg (o) statim then 0.5 mg 6–8 hrly until pain relief (usu. 24–48 h) or diarrhoea develops (max. 6 mg/24 h)

Note: Must be given early. Avoid if kidney impairment.

- · Consider corticosteroids (if sepsis excluded):
 - intra-articular, e.g. 1 mL, of triamcinolone under a digital nerve block (providing sepsis excluded) or
 - prednisolone 40 mg/d for 3–5 d then taper by 5 mg over 10 d $\it or$
 - corticotrophin (ACTH) IM in difficult cases

Note:

- Avoid aspirin and urate pool lowering drugs (probenecid, allopurinol, sulphinpyrazone).
- · Monitor kidney function and electrolytes.

Long-term therapy When acute attack subsides preventive measures include:

· weight reduction

- · a normal, well-balanced diet
- avoidance of purine-rich food, e.g. organ meats (liver, brain, kidneys, sweetbread), tinned fish (sardines, anchovies, herrings), shellfish and game
- · reduced intake of alcohol
- · good fluid intake (e.g. water)
- · avoidance of drugs such as diuretics (thiazide, frusemide) and salicylates
- · wearing comfortable shoes

Drug prophylaxis Allopurinol (a xanthine oxidase inhibitor) is the drug of choice.

Dose: 100-300 mg daily

Indications:

- hyperuricaemia (only if patient symptomless)
- · frequent acute attacks
- · tophi or chronic gouty arthritis
- renal stones or uric acid nephropathy

Method

- Start 6 wks after last acute attack.
- Start with 50 mg/d for 1st wk \rightarrow up to 50 mg/wk to 300 mg
- Cover with prednisolone 5 mg/d, colchicine 0.5 mg tds or indomethacin 25 mg bd for 6 mths.

Granuloma annularae

A common benign group of papules arranged in an annular fashion.

- · Most common among children and young adults
- · Associated with diabetes
- Usually on dorsum or sides of fingers (knuckle area), backs of hands, the elbows and knees

Management

- · Check urine/blood for sugar
- · Give reassurance (they usually subside in a yr or so)
- · Cosmetic reasons:
 - First line: potent topical corticosteroid ± occlusion apply bd for min.
 4–6 wks
 - If ineffective: intradermal injection into the extending outer margin of triamcinolone (equal vol. 10% with N saline). Other long-acting steroids can be used. Can repeat at 6 wkly intervals if effective or liquid nitrogen wkly.
- If disseminated: refer for a systemic therapy, e.g. dapsone, retinoids.

Growing pains

D 103

Grover's disease

A skin disorder which produces small, firm, intensely pruritic reddishbrown warty papules mainly on the upper trunk. Usually occurs in older men (70–80 yrs). Diagnosis is by biopsy.

Treatment involves relieving itch until spont. resolution. Includes topical (preferable) or oral steroids and UV light.

Guillain-Barre syndrome

Peripheral neuropathy, 🗅 386.

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Haematemesis and melaena

Acute severe upper gastrointestinal haemorrhage is an important medical emergency.

A sudden loss of 20% or more circulatory blood volume usually produces signs of shock, such as tachycardia, hypotension, faintness and sweating.

Causes of upper GI bleeding The major cause of bleeding is chronic peptic ulceration of the duodenum and stomach, which accounts for approx. half of all cases. The other major cause is acute gastric ulcers and erosions, which account for at least 20% of cases. Aspirin and NSAIDs are responsible for many of these bleeds. Causes are illustrated in Fig. 62 below.

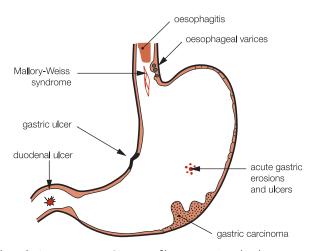


Figure 62 Important upper GI causes of haematemesis and melaena

Investigations Investigations to determine the source of the bleeding should be carried out in a specialist unit. Endoscopy will detect the cause of the bleeding in at least 80% of cases.

Management The immediate objectives are:

- restore an effective blood volume (if necessary)
- 2 establish a diagnosis to allow definitive treatment

All patients with a significant bleed should be admitted to hospital and referred to a specialist unit. Urgent resuscitation is required where there has been a large bleed and there are clinical signs of shock. Such patients

require an intravenous line inserted and transfusion with blood cells or fresh frozen plasma (or both) commenced as soon as possible.

In many patients bleeding is insufficient to decompensate the circulatory system and they settle spontaneously. Approximately 85% of patients stop bleeding within 48 hrs. PPIs should be commenced in most cases since most bleeds are from peptic ulceration. Use oral PPIs if possible but IV PPIs can be used.

Most patients require no specific therapy after resuscitation. In some instances haemostasis of bleeding points (via endoscopy) can be achieved with a heater probe (e.g. Gold Probe) or injection of adrenaline or both. Occasionally surgery will be necessary to arrest bleeding but should be avoided if possible in patients with acute gastric erosion.

Haematuria

Haematuria is the presence of blood in the urine and can vary from frank bleeding (macroscopic) to the microscopic detection of red cells.

Table 46 Haematuria: diagnostic strategy model (modified)

Q. Probability diagnosis

A. Infection

- cystitis/urethrotrigonitis (female)
- urethritis (male)
- prostatitis (male)

Calculi-renal, ureteric, bladder

Q. Serious disorders not to be missed

- A. Cardiovascular e.g. renal infarction Neoplasia
 - renal tumour
 - urothelial: bladder, renal pelvis, ureter
 - · carcinoma prostate

Severe infections e.g. infective endocarditis

Acute glomerulonephritis

IgA nephropathy

Renal papillary necrosis

Other renal disease inc. CTDs &

vasculitides

Q. Pitfalls (often missed)

A. Urethral prolapse/caruncle

Pseudohaematuria (e.g.

beetroot, porphyria) Benign prostatic hyperplasia

Trauma: blunt or penetrating

Foreign bodies

Bleeding disorders

Exercise (heavy)
Radiation cystitis (massive

haematuria)

Anticoagulant therapy

Menstrual contamination

Others

All patients presenting with macroscopic haematuria or recurrent microscopic haematuria require both radiological investigation of the upper urinary system and visualisation of the lower urinary system to detect or exclude kidney pathology.

The key radiological investigation is the intravenous urogram (pyelogram) and then ultrasound.

The commonest cause of glomerulonephritis leading to nephritic syndrome (oedema + hypertension + haematuria) is IgA nephropathy.

Haemochromatosis

A condition in which the total body iron is increased to $20-60\,g$ (normal 4 g). The excess iron is deposited in and damages several organs:

- liver → cirrhosis
- pancreas → 'bronze' diabetes
- skin → bronze or leaden grey colour
- heart → restrictive cardiomyopathy
- pituitary → hypogonadism: impotence etc.
- joints → arthralgia (esp. hands); chondrocalcinosis

It is usually primary (hereditary—autosomal recessive) but may be secondary (e.g. chronic haemolysis, ↑ dietary iron, multiple transfusions).

Symptoms (May be) extreme lethargy, polyuria and polydipsia, arthralgia, loss of libido

Signs (Look for) hepatomegaly, very tanned skin, cardiac arrhythmias

Diagnosis

- ↑ serum transferrin saturation >70% (key test) and ↑ ferritin (>250 mcg/L)
- · Liver biopsy (if LFT enzymes abnormal) or hepatomegaly
- HFE genetic studies—C282Y and/or H63D mutation
- Screen first-degree relatives (s. transferrin saturation and s. ferritin)

Management

- Refer for specialist care.
- Weekly venesection 500 mL (250 mg iron) until serum iron levels normal and haemoglobin <110 g/L (may take at least 2 yrs), then every 3-4 mths to keep s. ferritin (<100 mcg/L), transferrin saturation and iron normal.
- · Normal diet.
- · Avoid alcohol.
- Life expectancy is normal if treated before cirrhosis or diabetes develops.

Haemorrhoids

□ 32-33

Hair disorders

Key facts on hair numbers

 Hair growth is asynchronous (i.e. continuous production and shedding).

- Humans produce 1 km of hair a month.
- Approx. 50–100 hairs are shed daily without a reduction in density.
- The scalp contains, on average, 100 000 hair follicles.
- At least 25% of hair must be shed before a noticeable loss of density occurs.
- Hair loss counts consistently above 100/d indicate excessive hair loss.
- Significant hair loss tends to block the shower drain or be visible all over the pillow.







Figure 63 Female pattern baldness (left) and male pattern baldness

Causes of diffuse hair loss

- · Androgenetic alopecia
- · Telogen effluvium
- Post-partum telogen effluvium
- · Alopecia areata (diffuse type)
- · Drugs—cytotoxics and others
- · Hypothyroidism
- Nutritional
 - iron deficiency
 - severe dieting
 - zinc deficiency
 - malnutrition
- Post-febrile state
- Anagen effluvium

Androgenic alopecia

This is the most common form of human hair loss affecting 50% \circlearrowleft by 40 yrs and up to 50% \lozenge by 60 yrs. It is genetically determined as well as being androgen dependent. In women the pattern of hair loss is different to men. Diffuse thinning occurs on the top of the head (the crown) while the front hairline usually remains.

Treatment, which is difficult, is summarised on 26.

Alopecia areata, alopecia totalis and alopecia universalis

Alopecia areata is a disorder of the hair follicle causing a sudden onset of localised or diffuse hair loss. The features are complete hair loss (small patch or diffuse), a clean normal scalp, no inflammation and exclamation-mark hairs. Small patches may recover spont. (usu. 80%), while extensive (>50% loss) has a variable course.

Alopecia totalis, which involves the total scalp, has at best a 50% chance of recovery in a fit adult. In alopecia universalis the eyebrows and eyelashes are also affected.

For treatment, \square 26.

Scarring alopecia

In this irreversible condition hair follicles are damaged. A scalp biopsy is essential to determine the diagnosis. Apart from obvious causes, such as trauma, severe burns, a carbuncle and scalp ringworm with kerion, the causes are:

- · lichen planopilaris—a variant of lichen planus
- · discoid lupus erythematosus
- · folliculitis decalvans—probably due to S. aureus
- · pseudopelade—a slowly progressive scarring condition

Telogen effluvium

This is increased shedding of telogen hairs, which can be triggered by a variety of stresses, including severe stress, childbirth, febrile illness, trauma, crash dieting and cessation of the OCP.

Typical features: stressful event \rightarrow 2–3 mth gap to diffuse hair loss with white bulbs on end of the hair.

If uncomplicated, recovery can be expected in 6 months. If there is a concern about non-recovery, an option is the use of topical minoxidil for min. 4 months. Refer if incomplete recovery or relapsing episodes.

Anagen effluvium

This is hair loss during the anagen phase and is typically seen in association with cancer chemotherapy. Anagen hair shafts are identified by their long and pigmented hair bulb (compared with the white bulb of telogen). The follicle may remain in anagen, leading to a quick recovery or move into telogen, thus delaying growth by about 3 months.

Trichotillomania (hair pulling)

This is patchy hair loss caused by deliberate plucking or twisting of hair shafts. It is common (by habit) in young children but in older children and adults it may be an obsessive-compulsive disorder often associated with stress.

Clinical features

- · Incomplete patchy alopecia
- · Hairs of different length
- · Hairs broken and twisted
- · Strange pattern of loss
- · Tends to occur on side of dominant hand

Hair disorders in children

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Hirsuties

This is growth in the female of excess, coarse terminal pigmented hair in androgen dependent sites, namely in a male sexual pattern (e.g. upper lip, beard area and back). For management refer to hirsutism (\(\sigma\) 296).

Hypertrichosis

This is the increased growth of fine vellus or downy hair over the entire body. The cause is generally unknown. It may be a prepubertal trait. Can be caused by drugs such as phenytoin.

Dry hair

🗋 192

Oily hair

<u></u> 369

Halitosis

The commonest causes are orodental disease 2° to poor oral hygiene and inappropriate diet.

- Exclude dental disease, malignancy (esp. nasopharyngeal carcinoma), pulmonary TB, hairy tongue, nasal and sinus infection.
- · Consider drugs, e.g. isosorbide dinitrate, antidepressants.
- Avoid or limit onions, garlic, peppers, spicy salami and similar meats.
- Avoid or limit strong cheeses.
- Avoid smoking and excessive nips of alcohol.
- Brush teeth regularly during day—immediately after a meal.
- · Rinse mouth out with water after meals.
- · Avoid fasting for long periods during the day.
- · Gargle with mouthwash (e.g. Listerine, Cepacol Mint mouthwash).
- · Use dental floss regularly to clean the teeth.
- · Chew sugarless gum to moisten mouth.

Tip: Use an oil/water wash (e.g. equal volumes of aqu. Cepacol and olive oil), gargle a well-shaken mixture and spit out, qid.

Hangover

Preventive advice

- · Drink alcohol on a full stomach.
- · Select alcoholic drinks that suit you: avoid champagne.
- Avoid fast drinking—keep it slow.
- · Restrict the quantity of alcohol.
- · Dilute your drinks.
- Drink three large glasses of water before retiring.

Treatment

- Drink ample fluids, preferably water, because of relative dehydration effect of alcohol.
- Take 2 paracetamol tablets for discomfort, esp. for headache.
- · Drink orange juice or tomato juice, with added sugar.
- A drink of honey in lemon juice helps.
- Coffee and tea (better) are suitable beverages.
- · Have a substantial meal but avoid fats.

Hay fever (seasonal allergic rhinitis)

Suggested management steps

- · Patient education
- Allergen avoidance (if possible)

Mild cases:

- · Less-sedating antihistamines:
 - fexofenadine 60 mg bd, or desloratadine 5 mg/d or cetirizine 10 mg/d, or levocetirizine 5 mg/d or loratadine 10 mg/d, or
 - levocabastine nasal spray ±
- ± decongestant e.g. pseudoephedrine

Moderate to severe cases:

- · Intranasal corticosteroids (the most effective). Select from:
 - beclomethasone dipropinate 100 mcg per nostril bd
 - budesonide 128 mcg per nostril daily
 - mometasone furoate 2 sprays per nostril daily
 - fluticasone furoate 2 sprays per nostril daily
 - fluticasone propriate 2 sprays per nostril daily
 - triamcinolone 2 sprays per nostril daily
- prednisolone 25 mg (o) /d, reducing over 10 d if others ineffective

Use sodium cromoglycate (Opticrom) drops for eye irritation. Can use oral corticosteroids if topicals ineffective. Consider intranasal antihistamines (e.g. levocabastine) to relieve excessive itching and sneezing. Consider immunotherapy if applicable and leukotriene receptor antagonist if concurrent asthma.

Head banging or rocking in toddlers

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Headache

The commonest cause of headache presenting in general practice is respiratory infection. Common causes of chronic recurrent headache are tension, so-called transformed migraine and combination (mixed) headaches. Migraine is not as common as in specialist practice.

Red flag pointers for headache

- · sudden onset
- · severe and debilitating pain
- · fever
- · vomiting
- · disturbed consciousness
- · maximum in morning
- · worse with bending, coughing or sneezing
- · neurological (inc. visual) symptoms and signs
- 'new' in elderly esp > 50 yr
- · young obese female

Tension headache

Tension or muscle contraction headaches are typically a symmetrical tightness. They tend to last for hours and recur each day. They are often associated with cervical dysfunction and stress or tension, although the patient may be unaware of such tension (see Fig. 64).

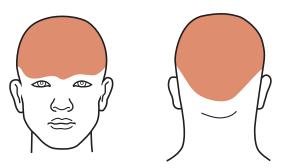


Figure 64 Typical distribution of pain in tension headache

Management

- Careful patient education.
- Counselling and reassurance.
- Advise stress reduction, relaxation therapy and yoga or meditation classes. Provide CBT.
- Medication—mild analgesics such as aspirin or paracetamol. Avoid tranquillisers and antidepressants if possible but consider these drugs if symptoms warrant medication (e.g. amitriptyline 10–75 mg (o) nocte increasing to 150 mg if nec.).

Migraine

Migraine, or the 'sick headache', is derived from the Greek word meaning 'pain involving half the head'. It affects at least 1 person in 10, ratio $Q: O^3 \sim 2:1$, and peaks between 20–50 yrs. There are various types of migraine with classic migraine (headache, vomiting and aura) and common migraine (without the aura) being the best known.

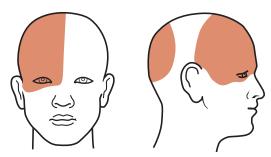


Figure 65 Typical distribution of pain in migraine (right side)

Management Patient education—explanation and reassurance about the benign nature of migraine.

Counselling and advice

- · Avoid known trigger factors.
- Diet: keep a diary—consider elimination of chocolate, cheese, red wine, walnuts, tuna, Vegemite, spinach and liver.
- Practise a healthy lifestyle, relaxation programs, meditation techniques and biofeedback training.

Treatment of the acute attack

- Start treatment at earliest impending sign.
- Rest in a quiet, darkened, cool room.
- · Cold packs on the forehead or neck.
- · Avoid moving around too much.

- · Do not read or watch television.
- · Avoid drinking coffee, tea or orange juice.
- For patients who find relief from simply 'sleeping off' an attack, consider prescribing temazepam 10 mg or diazepam 10 mg in addition to the following measures.

First signs of attack:

- Ist line: soluble aspirin, e.g. Dispirin Direct 2–3 tabs or paracetamol 2–3 tabs (o) + metoclopramide 10 mg (o) or ergotamine (e.g. inhaler) 1 puff statim then every 5 mins (max. 6/d) Consider NSAIDs (e.g. ibuprofen, diclofenac rapid)
- 2nd line: A triptan agent—sumatriptan 100 mg (o) or 6 mg (SCI) or nasal spray 10–20 mg per nostril or zolmitriphan 2.5–5 mg (o) repeat in 2 h if nec. or naratriptan 2.5 mg (o) repeat in 2–4 h if nec. rizatriptan 10 mg wafer, repeat in > 2 hrs if nec.

Established attack:

- · metoclopramide 10 mg (2 mL) IM or IV or
- prochlorperazine 12.5 mg IM or 25 mg rectally The severe attack:
- metoclopramide 10 mg IV followed by
- dihydroergotamine o.5 mg IV slowly (emergency room) or 1 mg IM (at home) or
- prochlorperazine IV or chlorpromazine IM
 Practice tip for severe classic migraine: IV metoclopromide + 1 L IV N saline in 30 mins + oral soluble aspirin or paracetamol

Prophylaxis (for > 2 attacks per mth)

- propranolol 40 mg (o) bd increasing up to 240 mg/d if nec. or
- pizotifen 0.5 mg (o) nocte increasing to 3 mg if nec.

Consider an antidepressant alone or in combination. Reserve methysergide for unresponsive severe migraine.

Transformed migraine

This term describes the progressive increase in frequency of migraine attacks until the headache recurs daily. The typical migraine features become modified so that the pattern resembles tension headache but with the unilateral focus of migraine. Overuse of analgesics is implicated. A trial of a triptan agent is worthwhile and naproxen for drug withdrawal headache

Cluster headache

Occurs in paroxysmal clusters of unilateral headache, which typically occur nightly, usually early a.m. A hallmark is the pronounced cyclical nature of the attacks. Occurs typically in males (6:1 ratio). Another feature is ptosis, lacrimation and rhinorrhoea on the side of the pain.



Figure 66 Typical distribution of pain in cluster headache

Management Acute attack:

- consider 100% oxygen 10 L/min for 15 mins by face mask (usually good response)
- sumatriptan 6 mg SCI (or 20 mg intranasal) or
- ergotamine (e.g. medihaler or rectally)
- · avoid alcohol during cluster

Prophylaxis (once a cluster starts)—consider the following:

- ergotamine (take at night during a cluster) oral or dihydroergotamine IM (1h prior to predicted times)
- methysergide 2 mg (o) tds
- prednisolone $50\,\text{mg/d}$ for 10 d then reduce
- pizotifen
- indomethacin trial (helps confirm diagnosis)
- · sodium valproate
- verapamil SR 160 mg (o) /d ↑ 320 mg

Cervical dysfunction/spondylosis

Headache from neck disorders, often referred to as occipital neuralgia, is far more common than realised and is very rewarding to treat by physical therapy, including mobilisation and manipulation and exercises in particular.

Combination headache

Combined (also known as mixed) headaches are common and often diagnosed as psychogenic headache or atypical migraine. They have a combination of various degrees of:

- tension and/or depression
- · cervical dysfunction
- · vasospasm (migraine)
- drugs (e.g. analgesics—rebound, caffeine)
- · some cases may be transformed migraine

The headache, which has many of the features of tension headache, tends to be constant, being present throughout every waking moment. It can last for weeks or months.

Treatment includes insight therapy, reassurance that the patient does not have a cerebral tumour, and lifestyle modification. Wean the patient off analgesics. The most effective medication is amitriptyline or other anti-depressant. Consider physical treatment for a cervical component.

Temporal arteritis

Temporal arteritis (TA), a subset of giant cell arteritis, is also known as cranial arteritis. There is usually a persistent unilateral throbbing headache in the temporal region and scalp sensitivity with localised thickening, with or without loss of pulsation of the temporal artery. Usually >50 yrs; the mean age is 70 yrs.

Diagnosis is by biopsy and histological examination of the superficial temporal artery. The ESR is usually markedly elevated. The CRP is usually elevated

Treatment Initial medication is prednisolone 40–60 mg (o) daily, initially for 2–4 wks then gradual reduction (max. 10%) wk intervals. Dose reduction and progress is monitored by the clinical state and ESR levels. Add aspirin.

Frontal sinusitis

Contrary to popular belief, sinusitis is a relatively uncommon source of headache.

Management Principles of treatment:

- · Drain the sinus conservatively using steam inhalations.
- Antibiotics: amoxycillin or amoxycillin/clavulanate or cefaclor or doxycycline
- · Analgesics

Subarachnoid haemorrhage (SAH)

Clinical features

- Sudden onset headache (moderate-to-intense severity)
- · Occipital location
- · Localised at first, then generalised
- · Pain and stiffness of the neck follows
- · Vomiting and loss of consciousness often follow
- · Kernig's sign +ve
- About 40% die before treatment
- · CT scanning is the investigation of choice

Refer urgently to major neurosurgical unit.

Hypertension headache

Tends to occur only in severe hypertension, such as malignant hypertension or hypertensive encephalopathy. The headache is typically occipital, throbbing and worse on waking in the morning.

Benign intracranial hypertension (pseudotumour cerebri)

This is a rare but important sinister headache condition which typically occurs in young obese women. Key features are headache, visual blurring and obscurations, nausea, papilloedema. The CT and MRI scans are normal but lumbar puncture, which relieves the headache, reveals increased CSF pressure and normal CSF analysis.

It is sometimes linked to drugs, including tetracyclines (most common), nitrofurantoin, oral contraceptive pill and vitamin A preparations.

Pharmacological treatment in children

Tension headache and migraine

- paracetamol 20 mg/kg (o) statim then 15 mg/kg 4–6 hrly (max 90 mg/kg) or
- ibuprofen 5–10 mg/kg (o) statim, up to 40 mg/kg/day (not <6 mths)

Head injury and unconsciousness

The clinical terms used to describe brain injury of concussion, confusion and laceration indicate minor to major degrees of a similar injury. Life-threatening injuries include extradural and subdural haematomas, see Figure 67. The Glasgow coma scale (see Table 47 overleaf) can be used as a guide to the conscious state.

Concussion (see 🗅 142).

Extradural haematoma (Fig. 67)

Following head injury there may be a short lucid interval followed by loss of consciousness. The patient is restless, confused, irritable (Fig. 67 overleaf), has severe headache and develops neurological signs.

Investigation: skull X-ray, CT scan. Lumbar puncture contraindicated. Management: urgent decompression of haematoma.

Subdural haematoma

The responsible injury may seem trivial esp. in elderly and the haematoma may be acute, subacute and chronic. Consider it in a person with personality change, headache, slow unsteady movements and fluctuating conscious level. Investigate and treat as above.

Table 47 Glasgow coma scale

	Score
Eye opening (E)	
Spontaneous opening	4
To verbal command	3
To pain	2
No response	1
Verbal response (V)	
Orientated and converses	5
Disoriented and converses	4
Inappropriate words	3
Incomprehensible sounds	2
No response	1
Motor response (M)	
Obeys verbal command	6
Response to painful stimuli	
Localises pain	5
Withdraws from pain stimuli	4
Abnormal flexion	3
Extensor response	2
No response	1
Coma score = $E + V + M$	
Minimum 3	
Maximum 15	
If 8-10: take care—monitor the airway	

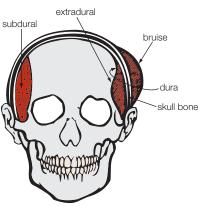


Figure 67 Illustration of sites of subdural and extradural haematomas in relation to the dura, skull and brain

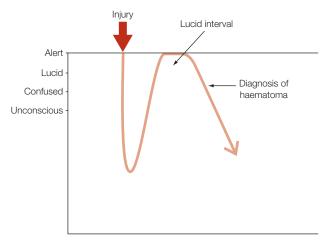


Figure 68 Classic conscious states leading to extradural haematoma after injury

Heartburn (dyspepsia)

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Heart failure

Heart failure occurs when the heart is unable to maintain sufficient cardiac output to meet the demands of the body.

Symptoms

- dyspnoea → exertional dyspnoea → dyspnoea at rest → orthopnoea → paroxysmal nocturnal dyspnoea
- lethargy/fatigue
- · weight change: gain or loss
- dizzy spells/syncope
- · palpitations
- ankle oedema

Investigations Apart from routine investigations, left ventricular function should be measured by echocardiography (the most important test) or nuclear gated blood pool scanning to determine the ejection fraction, which is usually very low in heart failure. B-type natriuretic peptide is a marker of the severity of CHF. Differentiate between systolic (commonest) and diastolic failure.

Treatment The treatment of heart failure includes appropriate patient education, determination and treatment of the cause, removal of

any precipitating factors, general non-pharmaceutical measures and drug treatment. Studies have shown the benefit of a multidisciplinary approach.

Prevention The emphasis on prevention is very important since the onset of heart failure is generally associated with a very poor prognosis. Approx. 50% of patients with severe heart failure die within 2–3 years of diagnosis.

General non-pharmacological management

- Refer for a rehabilitation program with interdisciplinary care
- Physical activity: rest if symptoms severe; moderate activity when symptoms are absent or mild
- Weight reduction, if patient obese
- Salt restriction: advise no-added-salt diet (< 2 g or 60–100 mmol/d)
- Encourage no smoking and limited alcohol (ISD/d)
- Water restriction: water intake should be limited to ≤1.5 L/d in patients with advanced heart failure, esp. when the serum sodium falls below 130 mmol/L
- Fluid aspiration if a pleural effusion or pericardial effusion is present

Drug therapy of systolic heart failure Any identified underlying factor should be treated. Initial drug therapy should consist of an ACE inhibitor and usually a diuretic. Loop diuretics such as frusemide are preferred for acute episodes although other diuretics may be used for long-term maintenance therapy. Atrial fibrillation should be treated with digoxin. Vasodilators are widely used for heart failure and ACE inhibitors are currently the most favoured vasodilator.

Note: Monitor and maintain potassium level in all patients.

ACE inhibitors, β -blockers and spironolactone have been shown to improve survival in CHF.

Initial therapy of chronic heart failure

- I ACE inhibitor (start low, aim high)
 - Dosage of ACE inhibitor: Start with ¼ to ½ lowest recommended therapeutic dose and then adjust for the individual patient by gradually increasing it to the maintenance or max. dose (Table 48). Once-daily agents are preferred. Use ARB if cough with ACEI.
- 2 Diuretic (add this to the ACE inhibitor if congestion) loop diuretic preferred:
 - frusemide 20-40 mg (o) once or twice daily or
 - butmetanide o.5-1 mg (o)/d or
 - ethacrynic acid 50 mg (o)/d or
 - (thiazide type diuretic)
 - hydrochlorothiazide 25–50 mg (o) daily (or other thiazide) or
 - indapamide 1.5-2.5 mg (o) daily

Table 48 Some ACE inhibitors in common usage

	Initial daily dose	Maintenance daily dose
Captopril	6.25 mg (o) nocte	25 mg (o) tds
Enalapril	2.5 mg (o) nocte	10 mg (0) bd
Fosinopril	5 mg (o) nocte	20 mg (o) nocte
Lisinopril	2.5 mg (o) nocte	5–20 mg (o) nocte
Perindopril	2 mg (o) nocte	4 mg (o) nocte
Quinapril	2.5 mg (o) nocte	20 mg (o) nocte
Ramipril	1.25 mg (o) nocte	5 mg (o) nocte
Trandolapril	o.5 mg (o) nocte	2–4 mg (o) /d

ACE inhibitors

- In practice the usual initial treatment of heart failure is an ACE inhibitor, which is the key drug. This optimises response and improves diuretic safety.
- The first dose should be given at bedtime to prevent orthostatic hypotension.
- Potassium-sparing diuretics or supplements should not be given with ACE inhibitors because of the danger of hyperkalaemia.
- Kidney function and potassium levels should be monitored in all patients.

Beta-blockers Selective β -blockers prolong survival of patients with mild to moderate CHF taking ACE inhibitors. Start with low doses.

 Table 49
 Beta-blockers approved to treat heart failure

	Initial daily dose	Target dose
Bisoprolol Carvedilol	1.25 mg (o) daily 3.125 mg (o) bd	10 mg (o) daily 25 mg (o) daily
Metoprolol extended release	23.75 mg (o) daily	190 mg (o) daily

Heart failure (unresponsive to first-line therapy)—stepwise strategy

- · ACE inhibitor plus
- frusemide 40–80 mg (o) bd plus
- selective β-blocker plus
- digoxin (if not already taking it)
 - 0.5-0.75 mg (o) statim (depending on kidney function) then
 - 0.5 mg (o) 4 h later then
 - 0.5 mg the following day then
 - individualise maintenance plus
- spironolactone 12.5–25 mg (o) /d (monitor potassium and KFTs)

Severe heart failure

- Seek specialist advice.
- · Hospital with bed rest.

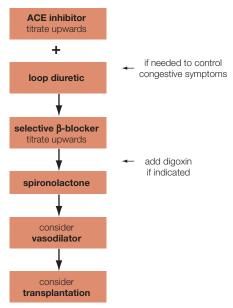


Figure 69 A stepwise management approach to heart failure

- · ACE inhibitor (o) to max. tolerated dose
- frusemide to max. 500 mg/d
- selective β-blocker plus
- spironolactone (low dose) 25 mg/d

If poorly controlled, consider adding:

- · thiazide diuretic
- spironolactone—doses ↑ 100–200 mg/d
- a β -blocker
- · digoxin
- · heparin (if confined to bed)

If still uncontrolled, consider other vasodilators:

· isosorbide dinitrate and hydralazine

Consider cardiac transplantation for appropriate patients with end-stage heart failure (e.g. patients < 50 yrs with no other major disease). Other surgical options include heart valvular surgery, coronary artery bypass surgery and surgical ventricular restoration (surgical reduction of an enlarged left ventricle).

Pitfalls in management

· Excessive use of diuretics (most common treatment error)

- · Giving an excessive loading dose of ACE inhibitor
- · Failure to correct remedial causes or precipitating factors
- · Failure to measure left ventricular function
- · Failure to monitor electrolytes and kidney function

Diastolic heart failure

Management is based on treating the cause such as hypertension, ischaemia and diabetes. The basic treatment is with inotropic agents such as calcium antagonists (verapamil, diltiazem) and β -blockers. If possible, avoid diuretics, digoxin, nitrates and nifedipine (if possible).

Acute severe heart failure

(acute pulmonary oedema)

Treatment

- Prop patient up
- · Oxygen (mask or intranasal) 6 L/min
- · Insert IV line
- Glyceryl trinitrate 300–600 mcg sublingual: can use IV nitrates in preference to morphine (if BP >100 mm Hg)
- Frusemide 40 mg IV, ↑80 mg IV as nec.
- Morphine I mg/min IV slowly (↑ 5–10 mg), esp. if chest pain
- CPAP (continuous positive airway pressure) or B₁PAP

Give digoxin if rapid atrial fibrillation and patient not taking it.

Note: Morphine is now less favoured. Glyceryl trinitrate IV (in hospital) is preferred. Continuous +ve airway pressure (CPAP) is effective.

Heel pain

Important causes of heel pain include:

- Achilles tendon disorders
- tendonopathy/peritendonitis
 - bursitis
 - postcalcaneal
 - retrocalcaneal
 - tendon tearing
 - partial
 - complete
- · bruised heel
- tender heel pad—usually atrophy
- 'pump bumps'
- plantar fasciitis
- calcaneal apophysitis
- · peroneal tendon dislocation
- posterior tibialis tendonopathy

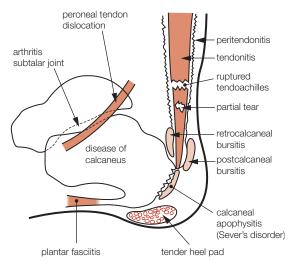


Figure 70 Important causes of the painful heel

- tarsal tunnel syndrome
- neuropathies (e.g. diabetic, alcoholic)

US examination is useful to differentiate the causes of Achilles tendon disorders.

Achilles tendon bursitis

Bursitis can occur at two sites:

- posterior and superficial—between skin and tendon
- deep (retrocalcaneal)—between calcaneus and tendon (see Fig. 70)

Treatment

- · Avoid shoe pressure (e.g. wear sandals)
- I-2 cm heel raise inside the shoe
- · Apply local heat and ultrasound
- NSAIDs (14-d trial)
- Inject corticosteroid into bursa with a 25 g needle

Plantar fasciitis

This common condition (also known as 'policeman's heel') is characterised by pain on the plantar aspect of the heel, esp. on the medial side; it usually occurs about 5 cm from the posterior end of the heel.

History

- · Pain:
 - under the heel

- first steps out of bed
- relieved after walking about
- increasing towards the end of the day
- worse after sitting
- · May be bilateral—usually worse on one side
- Typically over 40 yrs
- · Both sexes

Signs

- · Tenderness: deep and localised
- Heel pad may bulge or appear atrophic
- · Crepitus may be felt
- · No abnormality of gait, heel strike or foot alignment

Treatment

- · Heals spontaneously in 12-24 mths
- · Consider trial NSAIDs-3 wks
- · Therapeutic foot massages
- Exercise program to stretch Achilles tendon & plantar fascia
- US therapy
- Hydrotherapy: place foot alternately 30 secs in hot & cold water for 15 mins
- Protect heel with an orthotic pad to include heel and foot arch (e.g. Rose insole or thick pad of sponge or sorbo rubber).
- Injection of LA and depot corticosteroid into tender site helps for at least 2–3 wks.

Achilles tendonopathy/peritendonitis

Clinical features

- · History of unaccustomed running or long walk
- · Usually young to middle-aged males
- · Aching pain on using tendon
- Tendon feels stiff, esp. on rising
- · Tender thickened tendon
- · Palpable crepitus on movement of tendon

Treatment

- Rest: ? crutches in acute phase, plaster cast if severe
- Cool with ice in acute stage, then heat
- NSAIDs (14-d trial)
- 1–2 cm heel raise under the shoe
- · US and deep friction massage
- · Mobilisation, then graduated stretching exercises

Avoid corticosteroid injection in acute stages and never give into tendon. Can be injected around the tendon if localised and tender.

Partial rupture of Achilles tendon

Clinical features

- · A sudden sharp pain at the time of injury
- · Sharp pain when stepping off affected leg
- · A tender swelling palpable about 2.5 cm above the insertion
- · May be a very tender defect about size of tip of little finger

Treatment If palpable gap—early surgical exploration with repair. If no gap, use conservative treatment:

- · initial rest (with ice) and crutches
- 1-2 cm heel raise inside shoe
- · US and deep friction massage
- graduated stretching exercises

Convalescence is usually 10-12 wks.

Complete rupture of Achilles tendon

Clinical features

- · Sudden onset of intense pain
- · Patient usually falls over
- Feels more comfortable when acute phase passes
- · Development of swelling and bruising
- · Some difficulty walking, esp. on tiptoe

Diagnosis

- Palpation of gap (best to test in first 2-3h as haematoma can fill gap)
- +ve Thompson's test (calf squeeze test)

Treatment Early surgical repair (within 3 wks).

Hepatitis

Acute viral hepatitis may be caused by Hepatitis A, B, C, D & E, and less commonly by CMV and EBV. These can cause severe liver disease (esp. Hepatitis B & C) from end stage liver failure to hepatocellular carcinoma. A and D are spread by the faecal—oral route, B and C from blood and possible other body fluids. See also $\[\]$ 313–14.

Diagnostic markers for acute hepatitis

- · Hepatitis A: IgM anti-HAV (Ab)
- · Hepatitis B: surface antigen (HBsAg)
- · Hepatitis C: anti-HCV (Ab)
- IgM antibodies = recent infection
- IgG antibodies = previous exposure

Hepatitis A

Features

- Recovery usu. in 3-6 wks
- · Sometimes a subclinical illness
- · No carrier state
- · Does not cause chronic liver disease
- Fulminant hepatitis with coma & death is rare
- · LFTs and viral markers confirm diagnosis

Serology

- IgM anti HAV = active infection
- IgG antibodies = immunity

Treatment

- · Rest as appropriate
- · Avoid sedatives, NSAIDs
- Cease alcohol until LFTs normal
- Cease OCP
- · Fat-free diet
- · Advise on infection control

Prevention

- · Sanitary health measures
- 2 dose primary vaccine $o \rightarrow 6-12$ mth

Hepatitis B (HBV)

Features

- Transmission by blood spread, sex, perinatal spread, percutaneous
- 5% become chronic carriers but
- 95% with infant acquired HBV \rightarrow carriers
- 15–40% of carriers \rightarrow cirrhosis
- · LFTs and viral markers confirm diagnosis

HBV antigens of virus particle

- HBsAg = surface antigens
- HBcAg = inner core antigens
- HBeAg = a soluble protein from pre-core & core

Antibodies develop to each of these (see Fig. 7.1 overleaf).

Serology guidelines

- HBsAg = acute/persistent infection
- anti-HBs = past infection & immunity
- HBeAg = highly infective
- HBV DNA = circulating & replicating virus
- anti-HBc IgM = recent infection and earliest indicator
- anti-HBc IgG = past infection

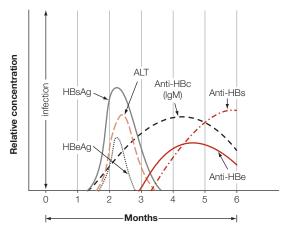


Figure 71 Time course of acute Hepatitis B infection

Interpretation

- HBsAg = diagnosis and/or carrier
 - if +ve do full viral profile

Progress is monitored 6–12 mthly with HBeAg, HBV DNA and LFTs:

- HBeAg -ve + HBV DNA + anti-HBe = resolving
- as above + anti-HBs = full recovery
- HBeAg +ve + HBV DNA = replicating & infective, refer Monitor LFTs every 6 mths—if abnormal refer to specialist.

Treatment

- · As for Hepatitis A
- · Advise about transmission
- Address any drug dependence

Medication for chronic Hepatitis B with abnormal LFTs:

- lamivudine 100 mg (o) /d or adefovir or entecavir until HBe Ag undetectable and replaced by anti-HBe twice at least 3 mths apart plus
- · pegylated interferon alpha SCI for 6 mths

Prevention

- Hepatitis B vaccine: 0, 1, 6 mths, or
- Hepatitis A and B combined: 0, 1, 6 mths

Hepatitis C (HCV)

Features

- · Mainly acquired from IV drug use & tattooing
- · Minimal clinical symptoms—often asymptomatic
- About 70% can progress to chronic hepatitis (see Fig. 72)

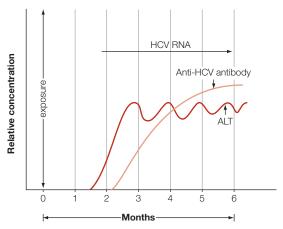


Figure 72 Time course of active Hepatitis C infection

- · Treatment decisions based on the genotype
- Good cure rates now esp. with types 2 & 3

Serology

- HCVAb (anti-HCV) +ve = exposure (current or past)
- HCV RNA (a PCR test) +ve = chronic viraemia

-ve = spontaneous clearance

- CD4/HCV = viral load
- ALTs in LFTs → indicates disease activity (tested 3 times over next 6 mths)
 - ALT persistently normal = good prognosis
 - ALT ↑↑ = treatment required; refer
- If PCR +ve + significant viral load + ↑ ALT, perform genotyping (to determine treatment)

Note: HCV RNA is present when the ALT becomes abnormal while the anti-HCV rises more slowly and may not be detectable for several weeks.

Follow progress with LFTs and αFP screening. Also check for HBV and HIV (informed consent)

Treatment

- As for Hepatitis B
- Education/advice about transmission
- · Address opioid dependence
- Shared care with specialist (early referral)

Acute HVC (if recognised early):

• pegylated interferon alpha SCI, up to 20 wks

Chronic HVC:

- · pegylated interferon alpha SCI plus
- ribaviran (o) in 2 divided doses

Lengths of treatment is determined by genotype & response.

Side effects of treatment These can be quite distressing.

Interferon: flu-like illness (constant), insomnia, depression, diarrhoea, leucopenia, thrombocytopenia, thyroid dysfunction, retinopathy, alopecia, neuropsychiatric disturbance, ↑ triglycerides.

Ribavirin: cough, dyspnoea, insomnia, rash, pruritus, ↑ uric acid, haemolytic anaemia, teratogenicity, induction of autoimmune diseases.

Herpes simplex

Table 50 Herpes simplex virus: manifestations and complications

Examples of manifestations

- Herpes labialis (synonyms: fever blisters, cold sores)
- Keratoconjunctivitis, including dendritic ulcer
- · Genital infection
- Other areas of skin, such as buttocks

Complications

- · Eczema herpeticum
- Erythema multiforme (3–14 d postinfection), often recurrent
- Myeloradiculopathy with genital herpes
- Pneumonia
- Encephalitis

Herpes labialis (classical cold sores)

The objective is to limit the size and intensity of the lesions.

Topical treatment At the first sensation of the development of a cold sore (preferably at the prodrome stage):

- apply an ice cube to the site for up to 5 mins every 60 mins (for first 12 h) or
- · saturated solution of menthol in SVR or
- other topical applications include:
 - idoxuridine o.5% preparations (Herplex D liquifilm, Stoxil topical, Virasolve) applied hrly day I then 4 hrly or
 - povidone-iodine 10% cold sore paint: apply on swab sticks 4 times a day until disappearance or
 - aciclovir 5% cream, 4 hrly while awake for 4 d

Oral treatment for severe attack One of:

- famciclovir 125 mg (o) bd for 5 d
- valaciclovir 500 mg (o) bd for 5 d
- aciclovir 200 mg (o) 5 times/d for 5 d
 Aciclovir can be used in children.

Oral treatment for immunocompromised patients

One of:

- aciclovir 200 mg (o) 5 times/d for 7-10 d
- famciclovir 500 mg (o) bd for 7-10 d
- valaciclovir i g (o) bd for 7–io d

Prevention If exposure to the sun precipitates the cold sore, use a 30+ sun protection lip balm, ointment or solastick. Zinc sulphate solution can be applied once a wk for recurrences. Oral aciclovir 200 mg bd or valaciclovir 500 mg/d or famciclovir 250 mg bd (6 mths) can be used for severe and frequent recurrences (>6/yr).

Genital herpes

Topical treatment The proven most effective topical therapy is topical aciclovir (not the ophthalmic preparation) or 10% povidone-iodine (Betadine) cold sore paint on swab sticks for several days.

Pain relief can be provided in some patients with topical lignocaine. Saline baths and analgesics are advisable.

Oral treatment For the first episode of primary genital herpes (preferably within 24 h of onset) one of the guanine analogues can be used.

- aciclovir: 200 mg 5 times/d for 5d or until resolution of infection or
- famciclovir: 125 mg (o) bd for 5d or
- · valaciclovir: 500 mg (o) bd for 5 d

This appears to reduce the duration of the lesions from 14 days to $5-7 \, d$. The drugs are not usually used for recurrent episodes, which last only $5-7 \, d$. A 5-d course of any of the drugs can be used for a severe recurrence. Very frequent recurrences (≥ 6 in 6 mths) benefit from continuous low-dose therapy for 6 mths (e.g. valaciclovir 500 mg (o) once daily).

Eczema herpeticum

- Aciclovir 200 mg (o), 5 times/d or
- famciclovir 250 mg (o) bd or
- valaciclovir 500 mg (o) bd until healed.

Use IV aciclovir for severe cases.

Herpetic whitlow

Drugs and dosage as above for $7-10 \,\mathrm{d}.$

Herpes simplex keratitis

- Aciclovir 3% ophthalmic ointment, 5 times/d for 14 d or at least 3 d after healing
- *also* atropine 1% I drop 12 hrly Consider specialist referral.

Herpes zoster (shingles)

Cranial nerve involvement The trigeminal nerve—15% of all cases:

- ophthalmic branch—50% affects nasociliary branch with lesions on tip of nose and eyes (conjunctivae and cornea)
- maxillary and mandibular—oral, palatal and pharyngeal lesions
 The facial nerve: lower motor neuron facial nerve palsy with vesicles in and around external auditory meatus (notably posterior wall)—the Ramsay–Hunt syndrome.

Management

- Appropriate detailed explanation and reassurance. Dispel myths.
- Explain that herpes zoster is only mildly contagious but children can acquire chickenpox after exposure to a person with the disorder.

Topical treatment For the rash, use a drying lotion such as menthol in flexible collodion. Aciclovir ointment can be used but it tends to sting.

Oral medication

- I Analgesics (e.g. paracetamol or codeine or aspirin).
- 2 Guanine analogue antiviral therapy for:
 - all immunocompromised
 - any patient provided rash present < 72 h (esp. those > 60 yrs)
 - ophthalmic zoster (evidence to date—reduces scarring and pain but not neuralgia)
 - severe acute pain

Drugs and dosage

- Aciclovir 800 mg 5 times daily for 7 d or
- famciclovir 250 mg 8 hrly for 7 d or
- valaciclovir 1000 mg 8 hrly for 7 d

Postherpetic neuralgia

Increased incidence with age and debility, with duration greater than 6 mths.

- Resolves within 1yr in 70-80% but in others it may persist for years.
- Eye complications of ophthalmic zoster, including keratitis, uveitis and eyelid damage.

Treatment options

Oral medication

- · Basic analgesics (aspirin or paracetamol or NSAID orally)
- Carbamazepine 50–100 mg (o) bd initially ↑ to 400 mg bd (max) (for lancinating pain)
- Tricyclic antidepressants (e.g. amitryptiline 10–50 mg (o) nocte starting dose)
- Gabapentin 300 mg (o) daily (nocte) initially \understand as tolerated to tds

Topical medication

- Capsaicin (Capsig) cream. Apply the cream, which can 'burn', to the affected area 3–4 times/d (apply ice 20 mins before).
- Lignocaine 5% ointment or 10% gel or
- · Lignocaine 5% patch to painful area

Others

TENS as often as necessary (e.g. 16 h/d for 2 wks) plus antidepressants.

Prevention

Consider giving varicella zoster immune globulin to contacts of patients who are immunosuppressed and have no history of varicella. (vaccine 'Zostavac')

Hiccoughs (hiccups)

Simple brief episodes (possible options):

- · Valsalva manoeuvre
- rebreathing air in paper bag (as for hyperventilation)
- breath holding
- · sucking ice/swallowing iced water
- · catheter inserted quickly in and out of nose or nasopharynx
- · pressure on the eyeballs

Persistent (assuming exclusion of organic diseases):

- chlorpromazine orally or IV or IM or
- sodium valproate

Consider acupuncture, hypnosis or phrenic nerve block.

Hip pain

Hip pain in children

Children can suffer from a variety of serious disorders of the hip, e.g. developmental dysplasia (DDH), Perthes' disease, tuberculosis, septic arthritis and slipped capital femoral epiphysis (SCFE), all of which demand early recognition and management.

Developmental dysplasia of the hip (DDH)

Previously known as congenital dislocation of the hip.

Clinical features

- Females:males = 6:1
- Asymmetry in 40%
- Diagnosed early by Ortolani and Barlow tests (abnormal thud or clunk on abduction); test usually –ve after 2 mths

- US excellent (esp. up to 3–4 mths, ideally 6 wks) and more sensitive than clinical examination
- Plain X-ray difficult to interpret up to 3 mths, then helpful

Treatment (guidelines)

- · DDH must be referred to a specialist.
- Placed in an abduction splint or pelvic harness, or other methods if older.

Perthes' disease

A juvenile osteochondritis leading to avascular necrosis of femoral head.

Clinical features

- Males:females = 4:1
- Usual age 4–8 (rarely 2–18)
- · Sometimes bilateral
- Presents as a limp and aching (hip or groin pain)
- · Characteristic X-ray changes

Requires urgent referral: provide crutches.

Transient synovitis

This common condition is also known as 'irritable hip' or observation hip and is the consequence of a self-limiting synovial inflammation.

Clinical features

- · Children aged 4-8 yrs
- · Sudden onset of hip pain and a limp
- · Child can usually walk (some may not)
- ± history of recent trauma or URTI

Outcome: settles to normal within 7 d, without sequelae. Treatment is bed rest, crutches and analgesics.

Refer early.

Slipped capital femoral epiphysis

SCFE typically presents in the obese adolescent (10–15 yrs) with anterior hip (groin pain) knee pain and a slight limp.

- · Diagnosis before major slipping is vital.
- · X-ray of pelvis and 'frog leg lateral' of affected hip.
- Cease weight-bearing and refer urgently.

Septic arthritis

Septic arthritis of the hip should be suspected in all children with acutely painful or irritable hip problems.

Hip and buttock pain in the elderly

The following conditions are highly significant in the elderly:

- · osteoarthritis of the hip
- aortoiliac arterial occlusion → vascular claudication
- spinal dysfunction with nerve root or referred pain
- degenerative spondylosis of lumbosacral spine → neurogenic claudication
- · polymyalgia rheumatica
- trochanteric bursalgia (greater trochanteric pain syndrome)
- · fractured neck of femur
- · secondary tumours

Osteoarthritis of the hip

The most common form of hip disease.

Clinical features

- Usually > 50 yrs, increases with age
- · May be bilateral: starts in one, other follows
- At first pain worse with activity, relieved by rest, then nocturnal pain and pain after resting
- Stiffness, esp. after rising
- · Stiffness, deformity and limp may dominate (pain mild)

Note: May present with knee pain.

- Abnormal gait
- · First movements lost are IR and extension

Treatment

- Careful explanation: patients often fear OA of hip
- · Weight loss if overweight
- · Relative rest
- Complete RIB for acute pain
- · Analgesics and NSAIDs (judicious use)
- · Aids and supports (e.g. walking stick)
- · Physical therapy, including isometric exercises
- · Hydrotherapy is useful
- · Surgery is very effective

Trochanteric bursalgia

Very common in mid-age to elderly females presenting with pain over lateral surface of the greater trochanter. Features are:

- female > 45-50 years
- · pain on outside hip referred to as far as foot
- · pain on lying on hip at night
- · limp

Treat with trial of physiotherapy and exercises. Trial of NSAIDs and local steroid injection.

Hirsutism (hirsuties)

Most cases are due to idiopathic hirsutism along racial or familial lines.

- · Exclude adrenal or ovarian pathology (e.g. PCOS).
- · Use bleaching, waxing or depilatory creams, or shave.
- Do not pluck hairs, esp. around the lips and chin. Plucking stimulates hair growth but shaving appears to have no effect.
- Electrolysis may help but is expensive and protracted.
- Drug treatment: spironolactone 100–200 mg daily; takes 6–12 mths to respond. Preferred to cyproterone acetate.

Hives (papular urticaria)

Features

- · Persistent itchy papules following insect bites
- · Any biting insect, esp. fleas, mosquitoes, sandflies, mites, bed bugs
- · Commonest in children
- · Small weals evolving to firm reddish papules
- · Persist for days, sometimes wks

Treatment

- · Soothing lotion or cream (in preferred order):
 - phenol 1% or menthol 0.5% in oily calamine lotion
 - crotamiton 10% lotion
 - Ego Soov Bite
- Topical corticosteroids (start with 0.5% hydrocortisone)
- Consider oral antihistamines or corticosteroids in severe cases *Note*: Prevention is best, esp. in those prone to hives.

Hoarseness

Common causes: viral URTI (acute laryngitis), non-specific irritative laryngitis, vocal abuse, nodules and polyps of cords, intubation, oesophageal reflux.

Chronic:

- · children—'screamer's nodules'
- adults—non-specific laryngitis (e.g. smoking; 'barmaid' syndrome)
 Exclude: imminent airway obstruction (e.g. croup, epiglottitis, malignancy, hypothyroidism), other severe infections (e.g. diphtheria, TB), foreign body, allergy, goitre.

Diagnosis: larynx must be visualised.

Investigations

- · Thyroid function tests
- · Chest X-ray
- · Indirect laryngoscopy
- Direct laryngoscopy

Management

- Acute:
 - treat according to cause
 - vocal rest or minimal usage at normal conversation
 - avoid irritants (e.g. dust, tobacco, alcohol)
 - consider inhalations and cough suppressants
- · Chronic:
 - establish diagnosis
 - consider specialist ENT referral

Laryngitis 🗅 325

Human immunodeficiency virus infection

About 50% of patients acquiring HIV infection develop an acute infective illness similar to glandular fever within wks of acquiring the virus (the HIV seroconversion illness).

Main features are fever, lymphadenopathy, lethargy and possibly sore throat and a generalised rash.

If these patients have a negative infectious mononucleosis test, perform an HIV antibody test, which may have to be repeated in 4 wks or so if negative.

Patients invariably recover to enter a long period of good health for 5 yrs or more.

The level of immune depletion is best measured by the CD4 +ve T-lymphocyte (helper T-cell) count—the CD4 cell count. The cut-off points for good health and severe disease appear to be 500 cells/ μ L and 200 cells/ μ L respectively.

Progress of the disease can be measured with the viral load test.

Clinical stages of HIV disease

- · Acute seroconversion illness
- · Asymptomatic phase or persistent generalised lymphadenopathy
- Symptomatic:
 - early (e.g. constitutional symptoms, oral candidiasis, herpes zoster)
 - late (e.g. pneumocystis pneumonia, Kaposi's sarcoma)
 - advanced (e.g. CMV retinitis, cerebral lymphoma)

Typical common clinical presentation of HIV

- · Fever of unknown origin
- · Weight loss (usually severe)

- Respiratory: non-productive cough, increasing dyspnoea and fever: due to opportunistic pneumonias (pneumocystis pneumonia may have abrupt or insidious onset)
- · Gastrointestinal including oral cavity:
 - chronic diarrhoea (many causes) with weight loss or dehydration
 - oral candidiasis and oral hairy cell leukaemia
- Neurological disorders (e.g. headache, dementia, ataxia, seizures, visual loss)
- Skin—Kaposi's sarcoma and shingles, esp. multi-dermatomal, infections (viral, bacterial or fungal)

Management Patients with HIV infection require considerable psychosocial support, counselling and regular assessment from a non-judgmental caring practitioner.

The holistic approach to life is recommended (\$\times\$477)

Support groups and continuing counselling.

Medication (current guideline—CD4+ cells < 350 μL)

Currently the use of three antiretroviral drugs is preferred: usu. 2 from the NRTI class with one from either the NNRTI or the protease inhibitor group. The HAART (highly active antiretroviral therapy) strategy is a combination of 3 (or more) agents with one or more penetrating the blood–brain barrier.

Common regimens

- zidovudine + lamivudine + indinavir or nevirapine
- zidovudine + didanosine + indinavir or efavirenz
- emtricitabine + tenofovir + efavirenz
- emtricitabine + didanosine + indinavir or nevirapine

For updated information check the HIV website (www.hivatis.org). Subcutaneous injections of interleukin have been shown to boost immunity.

Note: Treatment of acute HIV is not of proven clinical benefit, but is optional and some clinics offer it.

Hypertension

For adults aged ≥18 yrs hypertension is: diastolic pressure (DP) > 90 mmHg and/or systolic pressure (SP) > 140 mmHg

Н

Table 51 Definition and classification of blood pressure in adults aged >18 years, measured as sitting blood pressure (mmHg)

Category	Systolic	Diastolic	Follow-up
Normal	<120	<80	2 years
High normal	120-139	80–90	1 year or earlier
Grade 1 hypertension (mild)	140–159	90–99	2 months
Grade 2 hypertension (moderate)	160–179	100–109	witihin 1 month
Grade 3 hypertension (severe)	≥180	≥110	1–7 days
Isolated systolic hypertension	≥140	<90	1 month

When a patient's systolic and diastolic BPs fall into different categories, the higher category should apply.

Recommended routine basic screening tests

- · Ambulatory monitoring
- · Urine tests
 - urinalysis (for protein, blood and glucose)
 - micro-urine (casts, red and white cells)
 - urine culture (only if urinalysis abnormal)
- · Biochemical tests
 - potassium and sodium
 - creatinine and urea / e GFR
 - uric acid
 - glucose
 - lipids
- Chest X-ray
- ESR
- ECG

Others (e.g. renal ultrasound) only as indicated.

Risk stratification and calculation of cardiovascular risk

Treatment of hypertension is generally indefinite and it is important to establish the risk status and the prognosis before starting therapy, esp. if hypertension is an isolated factor. The WHO-ISH recommendation is that decisions about management of patients with hypertension should not be based on BP alone, but also on the presence or absence of other risk factors,

including important factors such as age, diabetes and smoking. Cardiovascular risk should be stratified according to the BP level and the presence of:

- · absolute cardiovascular risk factors
- · associated clinical conditions
- target organ damage

A practical approach is to stratify total cardiovascular risk in the terms low, moderate (medium), high and very high added risk which are calibrated to indicate an absolute 10-yr risk of cardiovascular disease of <15%, 15–20%, 20–30% and >30% respectively (based on Framingham criteria). For example, low risk indicates starting treatment and monitoring, high risk indicates treat immediately.

Risk estimates can be determined by referring to various cardiovascular risk tables on the website. A commonly used tool in Australia is the modified New Zealand Cardiovascular Risk Calculator (www.nzgg.org.nz or www.heartfoundation.com.au).

It is important to collaborate with patients in decision making and thus discussing cardiovascular risk assessment, and BP level should be the starting point when discussing the risks and benefits of treatment.

Management of essential hypertension

Goals of treatment in adults (mmHg)

- Adults ≥ 65 (unless diabetes, kidney disease) < 140/90
- Adults < 65 and those with diabetes, kidney disease and proteinuria < 1g/d < 130/80
- Proteinuria > 1 g/d < 125/75

Start with non-drug therapy if diastolic BP > 90 mmHg and systolic > 140 mmHg.

- Weight reduction (if necessary)
- Reduced alcohol intake to I-2 SDs/d (max.)
- · Reduced sodium intake (avoid excess salt)
- · Increased exercise
- · Reduction of particular stress
- · Smoking cessation
- · Consider drug factors (e.g. NSAIDs, steroids)
- Ensure adequate potassium and calcium intake

Drug treatment

Monotherapy

• Start with a single agent at low dose (depends on the individual and risk factors), e.g. diuretic (preferred in elderly) or β -blocker (cardioselective).

 Can use an ACE inhibitor/angiotensin II receptor blocker (ARB) or a calcium channel blocker (CCB) as first line.

Recommended starting medication

- I ACE inhibitor or ARB or calcium channel blocker (CCB) or low-dose thiazide diuretic (if aged ≥65 years)
- 2 If target not reached:

ACEI or ARB + CCB or ACEI or ARB + thiazide

3 If target not reached:

ACEI/ARB + CCB + thiazide

Need at least 4-6 wks to test effect.

If partly effective, increase dose to maximum or add on.

If ineffective, substitute a different class.

Combination (for partly effective monotherapy) (Fig. 73)

- diuretic + β-blocker or ACE inhibitor/ARB
- β-blocker + dihydropyridine Ca antagonist
- · ACE inhibitor/ARB + Ca antagonist
- prazosin + others

Example Start with perindopril 5 mg (o)/d increasing to max 10 mg/d. If inadequate, add:

• indapamide 1.25 mg (o) d.

Note: Monitor electrolytes, esp. s. potassium.

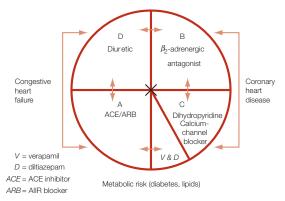


Figure 73 Common combinations of the therapeutic drug classes used for first-line therapy of hypertension. A + D, B + C, B + D are effective combinations.

Hyperventilation

- Rebreathe air from cupped hands over nose and mouth using slow deep breaths.
- · Encourage patient to learn to slow down breathing.
- Get patient to breathe in and out of a paper bag (an alternative esp. if tetany develops).
- · Investigate the possibility of phobias.
- · Advise cutting out caffeine and nicotine.

Hypoglycaemia

Symptoms: sweating, tremulousness, palpitations, nausea, anxiety, blurred vision, confusion \pm coma.

Causes: insulin toxicity, oral hypoglycaemic toxicity, other drugs (e.g. quinine, salicylates), alcohol, fasting, tumours (e.g. insulinoma), Addison disease, post gastrectomy

Treatment: glucagon I mg SC or IM with sugar under tongue or other sweets, 25–50 mL, 50% dextrose (or glucose) or both if severe.



Immunisation

Immunisation is the cornerstone of preventive medicine. Basic diseases (diphtheria, tetanus, polio, whooping cough, measles, mumps, rubella) should be covered. Children should be immunised according to the NH&MRC recommendation.

All adults should receive an adult diphtheria and tetanus (ADT) booster each 10 years.

All women of child-bearing years should have their rubella antibody status reviewed.

Table 52 Current recommended schedule (ref: www.immunise.health.gov.au)

Age	Disease
Birth	Hepatitis B
2 months	Diphtheria, tetanus and pertussis (DTP) Polio, Hepatitis B, Pneumococcus, Rotavirus Haemophilus influenzae type b (Hib)
4 months	Diphtheria, tetanus and pertussis (DTP) Polio, Pneumococcus, Hib, Hepatitis B, Rotavirus
6 months	Diphtheria, tetanus and pertussis (DTP) Polio, Pneumococcus, Hib, Rotavirus Hepatitis B (or at 12 mths)
12 months	Measles, mumps and rubella (MMR) Hib, Meningococcus C Hepatitis B (or at 6 mths)
18 months	Varicella, Pneumococcus (ATSIP)
4 years	Diphtheria, tetanus and pertussis (DTP) Polio Measles, mumps and rubella
12–13 years (girls)	Human papilloma virus (x 3 over 6 mths)
Prior to leaving school (15–19 yrs)	Diphtheria and tetanus (ADT)

Note: Injections should be given IM into the anterolateral thigh of children.

ATSIP = Aboriginal and Torres Strait Islander Peoples

Other recommendations

Influenza: annually for those with chronic debilitating diseases, persons >65, health care personnel and the immunosuppressed.

Hepatitis B: for those at risk through work or lifestyle; infants born of HBsAg +ve mothers.

Q fever: those at risk, esp. abattoir workers.

Tuberculosis (BCG vaccine): infants at risk (e.g. Indochinese babies exposed to TB, health workers who are Mantoux negative).

Pneumococcal vaccine: splenectomised persons > 2 yrs, Hodgkin's lymphoma, those at high risk of pneumococcal infections.

Meningococcal vaccine: children and adolescents 15-19 yrs.

Impetigo

- If mild and limited: antiseptic cleansing and removal of crusts with an antibacterial soap or chlorhexidine or povidone-iodine. Apply mupirocin (Bactroban) tds for 7–10 d
- · Daily bath with Oilatum Plus bath oil for 2 wks is helpful
- If extensive: oral di(flu)cloxacillin or cephalaxin or erythromycin (if penicillin sensitive)
- · Exclude from childcare/school settings until fully healed

Incontinence of urine

- · Search for a cause:
 - D—delirium, drugs (e.g. antihypertensives)
 - I-infection of urinary tract
 - A—atrophic urethritis
 - P-psychological
 - E—endocrine (e.g. hypercalcaemia), environmental: unfamiliar surrounds
 - R-restricted mobility
 - S-stool impaction, sphincter damage or weakness
- · Avoid various drugs (e.g. diuretics, psychotropics, alcohol)
- · Weight reduction if obese.

In women:

- perform urodynamics to assess stress incontinence
- bladder retraining (instruct patient to delay micturition for IO-I5 mins on impulse to void) and pelvic floor exercises (mainstay of treatment)
- · physiotherapist referral
- consider a trial of anticholinergic drugs if bladder atony instability or voiding dysfunction (e.g. propantheline 15 mg (o) bd or tds, tolterodine 2 mg (o) bd, imipramine 10-75 mg (o) nocte)
- consider surgery for stress incontinence due to urethral sphincter weakness (e.g. suprapubic urethral suspension, Burch procedure [gold standard]; Aldridge sling; tension free vaginal tape procedure)
- · consider injection of collagen into paraurethral region

Consider incontinence aids:

· absorbent pads and special pants

- · condoms and catheters; urinary drainage bags
- · absorbent sheeting

Infantile colic

B 8

Infertility

Infertility (or subfertility) is defined as the absence of conception after a period of 12 months of normal unprotected sexual intercourse.

Key facts and checkpoints

- Infertility affects 10–15% of all cohabiting couples.
- The main factors to be assessed are ovulation, tubal patency and semen analysis.
- Approx. 40–50% of couples have an identifiable male factor.
- Female factors account for \sim 45%: tubal problems account for \sim 20% and ovulatory disorders \sim 20%.
- Polycystic ovary syndrome is the most common cause of ovulatory dysfunction (see ☐ 393-4).
- Approx. 15% of cases have no apparent explanation.
- A significant number (25%) have combined male and female problems.
- Current specialised treatment helps 60% of subfertile couples to achieve pregnancy.

A diagnostic approach

It is important to see both partners, not just the woman.

History A careful history should include sexual function such as adequate intercourse, past history (esp. STI or PID), occupational history, drug intake and menstrual history.

Physical examination A general assessment of body habitus genitalia (inc. vaginal and pelvic examination), general health inc. diabetes mellitus, and secondary sexual characteristics should be noted in both man and woman. Urinalysis should be performed on both partners.

Note: testicular size:

- normal size 3.5-5.5 cm long; 2-3.5 cm wide
- small testes < 3.5 cm long

Essential first-line investigations

- Serum progesterone (mid-luteal/day 21) in ♀
- Basal body temperature and cervical mucus chart
- · Semen analysis
- Transvaginal ultrasound
- Rubella immune status ♀

Referral The family doctor should perform the initial investigations of a couple with infertility, inc. temperature chart, semen analysis and hormone levels, to determine whether it is a male or female problem and then organise the appropriate referral.

Male-semen analysis:

It is advisable to obtain at least two or three samples at least 80–90 days apart. It requires a complete ejaculation, preferably by masturbation, after at least 3 days' sexual abstinence. Use a clean, dry, wide-mouthed bottle; condoms should not be used. Semen should be kept warm and examined within 1 hour of collection.

Normal values: volume > 2 mL (av. 2-6)

concentration > 20 million sperm/mL

motility >40% after 2h normal forms >20% velocity >30 microns/sec

Female—ovulation status:

- Educate about temperature chart and cervical mucus diary, noting time of intercourse (take temperature with thermometer under tongue before getting out of bed in the morning). Now considered of low value.
- Mid-luteal hormone assessment (21st day of cycle), i.e. serum progesterone (main 1st line test for ovulation) and prolactin (refer Table 53).

Table 53 Hormone fluctuation in pituitary dysfunction

	Increased	Decreased
FSH	Primary gonadal hypofunction Pituitary gonadothrophin tumours Menopausal state Castration	Pituitary disease/failure Hypothalamic disease/failure PCOS
LH	Primary gonadal failure Increased LH:FSH ratio in PCOS Castration Menopause	Hypothalamic suppression Pituitary failure Eating disorders
Oestrodiol	Precocious puberty Exogenous oestrodiol Oestrogen therapy IVF	Hypothalamic disease/ failure Pituitary disease/failure

Influenza

Influenza causes a relatively debilitating illness and should not be confused with the common cold. The incubation period is usually 1–3 d and the illness usually starts abruptly with a fever, headache, shivering and generalised muscle aching.

Viral organisms—influenza A, influenza B Avian (bird) influenza—H5N1 influenza A strain Swine flu—swine variety of H1N1 influenza A

Clinical criteria During an influenza epidemic:

- fever > 38 °C plus
- · one respiratory symptom:
 - dry cough
 - sore throat plus
- · one systemic symptom
 - myalgia
 - headache
 - prostration or weakness
 - chills or rigors

Diagnosis PCR assay, viral culture, specific AB assay

Complications

- · Tracheitis, bronchitis, bronchiolitis
- · Secondary bacterial infection
- Pneumonia due to S. aureus (mortality up to 20%)
- Encephalomyelitis (rare)
- Toxic cardiomyopathy with sudden death (rare)
- · Depression (a common sequela)

Management Advice to the patient includes:

- rest in bed until the fever subsides and patient feels better
- analgesics—aspirin is effective or codeine and aspirin (or paracetamol), esp. if a dry cough
- fluids—maintain high fluid intake (water and fruit juice); freshly squeezed lemon juice and honey preparations help
- consider antiviral drugs of proven value (within 36 h), for example:
 - zanamivir (Relenza) (adult & child > 5 yrs) 10 mg by inhalation bd for 5 d or
 - oseltamivir (Tamiflu) 75 mg (o) bd for 5 days (child: 2 mg/kg ↑ 75 mg)
 - M_2 ion channel blockers; amantadine and rimantadine

Prophylaxis Influenza vaccination offers some protection for up to 70% of the population for about 12 months.

Ingrowing toenails

- Correct nails properly: cut across so that the cut slopes towards the centre of the nail and do not cut towards the edges (Fig. 74).
- · Fashion the toenails so that the corners project beyond the skin.
- · Wear good-fitting shoes (avoid tight shoes).
- · Keep toe area clean and dry.



Figure 74 Correct method of cutting toenails

Injectable contraceptives

These include:

- medroxyprogesterone acetate ('Depo-Provera')
 Dose: 150 mg by deep IM injection in first 5 days of the menstrual cycle. Same dose is given every 12 wks to maintain contraception.
- etonogestrel (Implanon)
 Dose: 68 mg by subdermal implantation for up to 3 yrs.

The main indication for this form of contraception is the desire for a highly effective method when other methods are contraindicated or disliked. Advantages are avoiding the side effects of oestrogen and overcoming compliance problems (e.g. in the mentally handicapped). Main disadvantages are marked menstrual irregularities and delayed return of fertility.

Insect stings

- · Wash site with large quantities of cool water.
- Apply vinegar (liberal amount) or aluminium sulphate 20% solution (Stingose) for about 30 secs.
- · Apply ice for several seconds.
- Use soothing anti-itch cream or 3–5% lignocaine ointment if very painful (e.g. Dermocaine gel).
- Action plan for possible reactions: \(\Delta\) 296 and \(\Delta\) 461.

Insomnia

Exclude and treat

- Drugs (e.g. caffeine, alcohol, β-blockers)
- · Anxiety, stress
- Depression
- · Restless legs syndrome
- Sleep apnoea
- Nightmares
- · Physical disorders (e.g. CCF arthritis)
- Bed-wetting
- Reflux disease

Management

- · Give explanation and reassurance (treat cause if known).
- Try to recognise what helps patient to settle best (e.g. warm bath, listening to music).
- · Establish a routine before going to bed.
- · Avoid alcohol and drinks containing caffeine in evening.
- · Try a warm drink of milk before retiring.
- Organise a comfortable, quiet sleep setting with right temperature.
- · Sex last thing at night where appropriate is usually helpful.
- Remove pets from the bedroom.
- Try relaxation therapy, meditation, stress management.
- · Consider hypnosis.
- If all conservative means fail, try zopiclone (Imovane) 7.5 mg or zolpidem tartrate (Stilnox) 10 mg (o) at night (limit to 2 wks) or temazepam 10–20 mg (o).
- · Consider referral to a specialist in sleep disorders.

Intertrigo

Intertrigo is skin inflammation which is caused by moisture, maceration and friction, and is strictly confined to opposing skin surfaces such as in the groin and under the breasts.

Groin rash

Common causes of a groin rash are presented in Table 54. It is important to distinguish between tinea cruris and candidiasis and the dermograms highlight the differences. Tinea cruris is described on \square 441.

Table 54 Common causes of a groin rash (intertrigo)

Simple intertrigo	Fungal
Skin disorders	• Candida
 psoriasis 	• tinea
 seborrhoeic dermatitis 	Erythrasma
dermatitis/eczema	Contact dermatitis

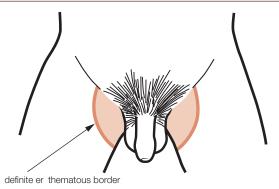


Figure 75 Dermogram for tinea cruris

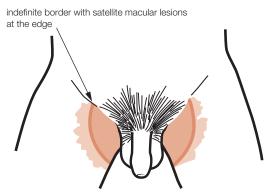


Figure 76 Dermogram for candidiasis of crural area

Candida intertrigo

Candida albicans superinfects a simple intertrigo and tends to affect obese or bedridden patients, esp. if incontinent.

Treatment

• Treat underlying problem (e.g. diabetes, obesity).

- Apply an imidazole preparation such as miconazole or clotrimazole (use ketoconazole if resistant).
- · Use Burow's solution compresses to dry a weeping area.
- Keep area dry and skin folds apart (if possible).
- Apply zinc oxide powder (e.g. Curash).
- Use short-term hydrocortisone cream for itch or inflammation (long-term aggravates the problem).

Erythrasma

Erythrasma, a common and widespread chronic superficial skin infection, is caused by the bacterium *Corynebacterium minutissimum*. Itch is not a feature.

Clinical features

- · Superficial reddish-brown scaly patches
- Enlarges peripherally
- · Mild infection but tends to chronicity if untreated
- · Coral pink fluorescence with Wood's light
- Common sites: groin, axillae, submammary, toe webs

Treatment

- · Erythromycin or tetracycline (oral)
- · Topical imidazole

Irritable bowel syndrome (IBS)

A clinical condition based on a history of at least 12 weeks of abdominal pain (in the preceding 12 months) or discomfort with 2 of the following (Rome II criteria):

- relieved by defecation and/or
- onset associated with change in stool frequency and/or
- onset associated with change in form (appearance) of stool

Clinical features

- Typically in younger women (21–40)
- Any age or sex can be affected
- · Cramping abdominal pain (central or iliac fossa)
- · Passage of mucus
- · Sense of incomplete evacuation
- · Variable bowel habit (constipation more common)
- · Often precipitated by eating
- · Faeces sometimes like small, hard pellets or ribbon-like
- Anorexia and nausea (sometimes)
- Bloating, abdominal distension, ↑ borborygmi
- · Tiredness common
- Onset and exacerbation may be associated with mental stress

IBS is a diagnosis of exclusion. FBE, ESR, stool microscopy and thorough physical examination and sigmoidoscopy is necessary. Insufflation of air at sigmoidoscopy may reproduce the abdominal pain of IBS.

Management Basis of initial treatment is simple dietary modifications, stress management and other non-drug therapy:

- education and reassurance (inc. cancer absent)
- · avoid foods that 'irritate', smoking, excess alcohol, laxatives, codeine
- avoidance of constipation
- consider a diet low in dairy products and processed foods
- high fibre diet and ↑ fluids (for constipation without flatulence)
- · consider stress management, relaxation therapies

Other measures depend on whether diarrhoea or constipation dominant (e.g. short courses of loperamide for diarrhoea, metamucil for constipation). Worthwhile trial if persistent:

- · dothiepin or other antidepressant
- other drugs to consider are mebeverine (Colofac) and tegaserod (Zelmac).



Jaundice

- Jaundice is defined as a serum bilirubin level above 19 µmol/L.
- Clinical jaundice manifests only when the bilirubin exceeds 50 µmol/L.
- The most common causes recorded in a general practice population are (in order) viral hepatitis, gallstones, carcinoma of pancreas, cirrhosis, pancreatitis and drugs.
- Always take a full travel, drug and hepatitis contact history in any patient presenting with jaundice.

Table 55 Jaundice (adults): diagnostic strategy model

Q. Probability diagnosis

A. Hepatitis A, B, C

Gallstones

Alcoholic hepatitis/cirrhosis
Drugs (e.g. flucloxacillin, sodium
valproate)

Q. Serious disorders not to be missed

A. Malignancy

- · pancreas
- · biliary tract
- · hepatocellular (hepatoma)
- metastases

Severe infections

- septicaemia
- · ascending cholangitis
- · fulminant hepatitis
- HIV/AIDS

Rarities

- · Wilson's syndrome
- · Reye's syndrome
- · acute fatty liver of pregnancy

Q. Pitfalls (often missed)

A. Gallstones

Gilbert's syndrome

Cardiac failure

Primary biliary cirrhosis

Autoimmune chronic active hepatitis

Haemochromatosis

Viral infections (e.g. CMV, EBV)

Chronic viral hepatitis

Investigations The main investigations are the standard liver function tests and viral serology for the infective causes, particularly Hepatitis B and C viruses.

Table 56 Characteristic liver function tests

Liver function tests (serological)	Hepatocellular (viral) hepatitis	Haemolytic jaundice	Obstruction	Alcoholic liver disease
Bilirubin	↑ to ↑↑↑	↑ unconjugated	↑ to ↑↑↑	↑ to N
Alkaline phosphatase	\uparrow to < 2 N	N	$\uparrow \uparrow \uparrow \rangle 2 N$	1
Alanine transferase	$\uparrow\uparrow\uparrow$ >5 N	N	N or ↑	1
Gamma	N or ↑	N	$\uparrow \uparrow$	$\uparrow \uparrow \uparrow$
glutamyl trans	sferase			
Albumin	N or ↓	N	N	N to ↓↓
Globulin	N or ↑	N	N	N to ↑

N: is within normal limits

The normal ALP is $30-120\,\mu/L$: it is elevated with cholestasis, osteoblastic activity (e.g. Paget disease), hepatitis and bony metastases.

Infective viral hepatitis

Hepatitis 🗅 286

- Hepatitis A, B, C, common esp. B and C
- · A and E-faeco-oral transmission
- · B, C, D-from IV drugs and bodily fluids
- · Sexual transmission with B and C
- · Diagnosed by viral markers for A, B, C, D

Management

- · Patient education
- · Rest, fat-free diet
- · Avoid alcohol, smoking and hepatotoxic drugs
- Advice on hygiene and prevention
- Regular follow-up for B and C: LFTs, $\alpha\text{-fetoprotein.}$
- Interferon alpha for chronic Hepatitis B and C (ideally for 12 mths);
 lamivudine for B; ribavirin for C

Prevention

- Hepatitis A vaccine: 0, 6–12 mths
- Hepatitis B vaccine: 0, 1, 6 mths
- Hepatitis A and B combined: 0, 1, 6 mths
- Immunoglobulin for A and B

Cholestatic jaundice (bile outflow obstruction)

- · intrahepatic cholestasis—intrahepatic biliary tree
- extrahepatic cholestasis—obstruction by gall stones, bile sludge, carcinoma e.g. pancreas, cholangitis

Symptoms: jaundice (green tinge), dark urine, pale stools, pruritus \pm pain Investigation: ultrasound, ERCP

Jaundice in the infant

Common in the newborn—usually physiological and benign but usually pathological within first 24 hours and if bilirubin is conjugated (consider serious biliary atresia.

ABO blood group incompatibility

- Antibody-mediated haemolysis (Coomb test +ve): mother is O, child is A or B
- · Perform direct Coomb test on infant
- Immediate phototherapy

Breast milk jaundice

 Occurs in 2–4% of breastfed infants—usually begins late in first week and peaks at 2–3 weeks. Diagnosis confirmed by suspending (not stopping) breastfeeding for 24–48 h. Bilirubin falls—mother expresses milk 48 h then resumes.

Jet lag

Symptoms: exhaustion, disorientation, poor concentration, insomnia, anxiety, anorexia, others.

How to minimise the problem (advice to patients)

Before the flight

- Allow plenty of time for planning.
- Plan a stopover if possible.
- If possible, arrange the itinerary so that you are flying into the night.
- Ensure a good sleep the night before flying.
- Ensure a relaxed trip to the airport.
- Take along earplugs if noise (75–100 dB) is bothersome.

During the flight

- Fluids: Avoid alcohol and coffee. Drink plenty of non-alcoholic drinks such as orange juice and mineral water.
- Food: Eat only when hungry and even skip a meal or two.
- Dress: Women should wear loose clothes and comfortable (not tight) shoes and take them off during flight.
- Sleep: Try to sleep on longer sections of the flight (give the movies a miss). Sedatives such as temazepam, zopiclone or antihistamines can help sleep.
- Activity: Try to take regular walks around the aircraft and exercise at airport stops.
- Special body care: Continually wet the face and eyes.

At the destination

• Take a nap for 1-2 hrs if possible.

 Wander around until you are tired and go to bed at the usual time. It is good to have a full day's convalescence and avoid big decision making soon after arrival.

Jitters

(pre-occasion jitters/performance anxiety)
Propranolol 10–40 mg (0) 30–60 mins before the event or performance.

Jock itch

Tinea cruris, 🗅 441.

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Kawasaki's disease (mucocutaneous lymph node syndrome)

An acute multisystemic vasculitis of unknown aetiology (? infective) in children usually < 5 yrs.

Diagnostic features

- · Fever persisting for more than 5 d
- · Bilateral conjunctival congestion (non-purulent)
- Dryness, redness and cracking of the lips ± erythema of tongue, buccal mucosa
- · Maculopapular polymorphic rash
- Cervical lymphadenopathy > 1.5 cm
- Erythema and swelling of palms and soles, followed by desquamation of fingertips (a characteristic)

Diagnosis with 5/6 features or 4/6 plus evidence of coronary aneurysm (plus exclusion of other diseases).

Above features may be variable/incomplete and not all present concurrently.

No specific test but elevated ESR, neutrophilia, thrombocytosis and various +ve antibody tests (e.g. antiendothelial cell). Generally benign and self-limiting but early diagnosis is important to prevent complications, esp. coronary aneurysms (15–30% in untreated) and also myocardial infarction, pericarditis and myocarditis.

Management

- · Echocardiography and ECG are indicated.
- · Treat with aspirin and high-dose gammaglobulin.
- · Avoid corticosteroids.
- Most children recover and the overall mortality is <3%.

Keloid or hypertrophic scar

Various treatment methods

Prevention: Avoid procedures on Keloid-prone individuals. Use compression and silicone dressings.

Multiple pressure injections

- First 'soften' with application of liquid nitrogen.
- Spread film of corticosteroid solution over scar.
- Apply multiple pressure through solution with a 21-gauge needle held tangentially (about 20 superficial stabs per cm²).
- · Avoid bleeding.

 Repeat in 6 wks or Intralesional injection of triamcinolone (after liquid nitrogen) or Topical class III-IV corticosteroid ointment with occlusion.

Consider:

- · X-ray treatment of surgical wounds within 2 wks of operation
- · intralesional cytotoxics (esp. fluorouracil)
- · re-excision of hypertrophic scar

Keratoacanthoma

Management

- Remove by excision perform biopsy (at least 2-3 mm margin)
- · If clinically certain—curettage/diathermy
- Treat as SCC (by excision) if on lip/ear

Note: Can be misdiagnosed instead of SCC.

Keratoses (solar and seborrhoeic)

Seborrhoeic keratoses

Management

- · Usually nil apart from reassurance
- · Does not undergo malignant change
- Can be removed for cosmetic reasons
- Light cautery to small facial lesions
- May drop off spontaneously
- · If diagnosis uncertain, remove for histopathology

Decolourisation or removal:

- liquid nitrogen (regular applications, e.g. every 3 wks) or
- concentrated phenol solution (with care) repeat in 3 wks or
- trichloracetic acid: apply to surface and instil with multiple small needle pricks (25 g). Repeat twice wkly for 2 wks.

Solar keratoses

Management

- · Reduce exposure to sunlight
- · Can disappear spontaneously
- · Liquid nitrogen if superficial or
- 5-fluorouracil 5% cream daily for 3-4 wks
- · Surgical excision for suspicious and ulcerating lesions
- · Biopsy if doubtful

Keratosis pilaris

A common skin disorder of rough horny stippled papules mainly on the extensor surfaces of the upper arms and thighs. Worse in winter months—resembles 'goose pimples'.

Management (options)

- · Urea containing moisturisers (e.g. Calmurid)
- · 3% salicyclic acid ointment
- · Topical retinoid cream

Kidney disease

Facts

- Chronic kidney disease (CKD) is a rapidly evolving major clinical problem.
- Diabetes is the main cause; others include hypertension, glomerulonephritis esp. IgA nephropathy, drugs, CTDs.
- · Consider the diagnosis of CKD in patients presenting with:
 - unexplained poor health esp. fatigue
 - unexplained anaemia
 - history of diabetes, hypertension, coronary heart disease, CTDs
 - neurological disturbances, e.g. confusion, coma
- An improved laboratory reporting method is the estimated glomerular filtration rate (e GFR) using the Modification of Diet in Renal Disease formula. Laboratories now report this with every request for s. creatinine clearance.
- ACE inhibitors or ARB agents are the key drugs in management of renal failure but monitor with care.

Definition of CKD

- GFR < $60 \, \text{mL/min/1.73} \, \text{m}^2$ for $\geq 3 \, \text{mths} \pm \text{evidence}$ of kidney damage or
- evidence of kidney damage (± ↓ GFR) for ≥3 mths, as evidenced by the following:
 - microalbuminuria (urinary albumin excretion rate 30-300 mg/d)
 - macroalbuminuria (urinary albumin excretion rate > 300 mg/d)
 - persistent haematuria (where other causes such as urologic conditions have been excluded)
 - pathologic abnormalities (e.g. abnormal renal biopsy)
 - radiologic abnormalities (e.g. scarring or polycystic kidneys) on renal US scan

Proteinuria Can be confirmed with a 24-h urine protein estimation or (preferably) an albumin creatinine ratio (ACR).

Guidelines:

- microalbuminuria: ACR ♀ 3.5–35 mg/mmol; ♂ 2.5–25 mg/mmol
- macroalbuminuria: ACR ?>35; ?>25

The 'triple whammy'

- NSAIDs/COX2s
- · ACE inhibitor
- · Diuretic

These 3 agents, individually or in combination, are implicated in > 50% of cases of iatrogenic kidney failure.

Table 57 Classification of CKD stage

Ck	(D stage	GFR mL/min	Clinical action plan
1	US evidence of damage, (e.g. scarring) Proteinuria/haematuria	>90	
2	Evidence of kidney damage Mild kidney failure	60–89	Further investigation for those at risk: • Assessment of proteinuria • BP Cardiovascular risk reduction • BP, cholesterol, blood glucose, smoking, obesity
3	Moderate kidney failure	30-59	As above plus Avoid nephrotoxic drugs Monitor eGFR 3 mths Prescribe antiproteinuric drugs; ACE inhibitors or AIIRA (if appropriate) Correct anaemia, acidosis, hyperparathyroidism Ensure drug dosages appropriate for level of kidney function Consider referral to nephrologist
4	Severe kidney failure	15–29	As above <i>plus</i> Referral to nephrologist Prepare for dialysis or transplantation (if appropriate)
5	End stage kidney failure	<15	As above <i>plus</i> • Institute dialysis or transplantation (if appropriate)

Targets: management goals The following are the optimal targets for patients with CKD.

• BP <130/85 mm Hg if proteinuria <1 g/d ≤125/75 mm Hg if proteinuria >1 g/d

• Cholesterol total < 4.0 mmol/L LDL < 2.5 mmol/L

Blood sugar
 preprandial 4.4–6.7 mmol/L

Hb $A_{rc} \le 7\%$

Haemoglobin 110-120 g/L
 Serum potassium ≤6 mmol/L
 BMI 25 kg/m²

Proteinuria ≥50% reduction of baseline value

Acidosis HCO₃ → 22 mmol/L
 Phosphate PO₄ ≤ 1.75 mmol/L

· No smoking

Alcohol ≤2 SDs/

Knee pain

Key facts and checkpoints

- A ruptured anterior cruciate ligament (ACL) is the most commonly missed injury of the knee.
- A rapid onset of painful knee swelling (mins to I-4h) after injury indicates blood in the joint—haemarthrosis: the main causes are torn cruciate ligaments, capsular tears with collateral ligament tears, peripheral meniscal tears, fractures and dislocations.
- Swelling over 1-2 days after injury indicates synovial fluid—traumatic synovitis.
- Acute spontaneous inflammation of the knee may be part of a systemic condition such as rheumatoid arthritis, rheumatic fever, gout, pseudogout (chondrocalcinosis), a spondyloarthropathy (psoriasis, ankylosing spondylitis, Reiter's syndrome, bowel inflammation), Lyme disease and sarcoidosis.
- Consider Osgood-Schlatter disorder in the prepubertal child (esp. boys 10–14) presenting with knee pain.
- Disorders of the lumbosacral spine (esp. L₃–S₁ nerve root problems) and of the hip joint (L₃ innervation) refer pain to the region of the knee joint.
- · Osteoarthritis of the hip often presents as knee pain.

Osgood-Schlatter disorder

Most common at 10–14 yrs; \bigcirc : \bigcirc = 3:1

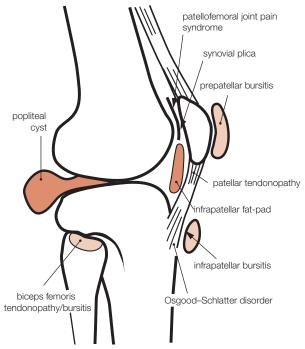


Figure 77 Lateral view of knee showing typical sites of various causes of knee pain

Management This is conservative as it is a self-limiting condition (6–18 mths; av. 12 mths).

- If acute, use ice packs and analgesics.
- · Main approach is to abstain from or modify active sports.
- · Avoid steroid injections and POP immobilisation.
- Surgery (rarely) if irritating long-term ossicle.
- · Physiotherapy: gentle quadriceps stretching

Chondrocalcinosis of knee (pseudogout)

- · Calcium pyrophosphate deposition
- In older people > 60
- · Can present with hot, red, swollen joint
- · Aspirate knee to search for crystals
- Treat with NSAIDs or IA steroid injection
- · Colchicine can be used

Meniscal tears

- Can occur with described injury (abduction or adduction force with twisting)
- Joint line pain ± locking is main symptom

Signs

- · Localised tenderness over joint line
- · Pain on hyperextension and hyperflexion of joint
- · Pain on rotation of lower leg

Treatment Arthroscopic meniscectomy (partial or complete)

Anterior cruciate ligament rupture

- · Sudden onset severe pain
- · Haemarthrosis/gross effusion
- · Ligament tests
 - anterior draw: -ve or +ve
 - pivot shift test: +ve (only if instability)
 - Lachman test (at 15-20° flexion): lacking an endpoint

Refer for surgery.

Medial collateral ligament rupture

Mechanism (main): direct valgus force to knee (lateral side knee) (e.g. Rugby tackle from side).

Causes medial knee pain; aggravated by twisting. Usually responds to 6 wks in limited motion brace then knee rehabilitation.

Patellofemoral pain syndrome

Most common overuse injury of knee (usu. due to chondromalacia):

- · pain behind patella or deep in knee
- pain aggravated during activities that require flexion of knee under loading (e.g. climbing stairs)

Treatment

- Correct any underlying biomechanical abnormalities by use of orthotics and correct footwear.
- Give reassurance and supportive therapy.
- Employ quadriceps exercises with enthusiasm (very effective).

Patellar tendonopathy ('jumper's knee')

- · Gradual onset of anterior pain.
- Pain localised to below knee.
- · Pain eased by rest, returns with activity.

Management Early conservative treatment inc. rest from the offending stresses is effective. Avoid impact activity. Chronic cases invariably require surgery.

Localised tendonopathy or bursitis

(e.g. prepatellar bursitis, infrapatellar bursitis, biceps femoris tendonopathy, anserinus tendonopathy/bursitis)

Generally (apart from patellar tendonopathy), the treatment is an injection of local anaesthetic and long-acting corticosteroids into and deep to the localised area of tenderness. In addition it is important to restrict the offending activity with relative rest and refer for physiotherapy for stretching exercises. Attention to biomechanical factors and footwear is important.

Osteoarthritis

Management

- · Relative rest
- · Weight loss
- Analgesics and/or judicious use of NSAIDs inc. COX-2 inhibitors (14-21 d)
- · Consider oral glucosamine
- · Walking aids and other supports
- Physiotherapy (e.g. hydrotherapy, quadriceps exercises, mobilisation and stretching techniques)
- IA injections of corticosteroids are generally not recommended but a single injection for severe pain can be very effective
- Consider intra-articular hylan G-F 20, a course of 3 injections
- Surgery: indicated for severe pain and stiffness; usually excellent results

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Laryngitis

Most acute cases caused by respiratory virus.

- · Rest at home including voice rest (best treatment).
- Avoid talking, use voice sparingly (hoarseness lasts 3-14 d).
- · Use warm sialogogues (e.g. hot lemon drinks).
- · Avoid whispering.
- · Drink ample fluids, especially water.
- · Avoid smoking and passive smoke.
- Use steam inhalations (5 mins tds).
- Humidity helps, esp. hot steamy showers.
- · Use cough suppressants, esp. mucolytic agents.
- · Use simple analgesics e.g. paracetamol or aspirin.

Lead poisoning

Children at risk of elevated blood lead:

- aged 9-48 mths living in or visiting older houses with peeling paint
- · those with pica
- those living in lead-contaminated areas (e.g. heavy traffic, battery breaking yards)

Those with moderate levels ($<2.17 \,\mu\text{mol/L}$) usually asymptomatic. Symptoms include:

- bad taste in mouth
- lethargy/fatigue
- · musculoskeletal aches and pains
- · abdominal discomfort
- · irritability/abnormal behaviour
- · bowel disturbances

Consider lead toxicity in children presenting with developmental delay or behaviour problems and in those with unexplained iron-deficiency anaemia. Active management needed if blood level is >2.64 $\mu mol/L$ (15 g/dL). Treatment involves chelation with Calcium Disodium Edetate, succimer or dimercaprol in hospital. Penicillamine or succimer are oral preparations which can be used.

Leg pain

Table 58 Pain in the leg: diagnostic strategy model

Q. Probability diagnosis

A. Cramps

Nerve root 'sciatica'

Muscular injury (e.g. hamstring)

Osteoarthritis (hip, knee)
Overuse injury (e.g. Achilles

Overuse injury (e.g. Achilles tendonopathy)

Q. Serious disorders not to be missed

A. Vascular

- Arterial occlusion (embolism/ thrombosis)
- Thrombosis popliteal aneurysm
- Deep venous thrombosis

Neoplasia

- · Primary (e.g. myeloma)
- Metastases (e.g. breast to femur)

Infection

- Osteomyelitis
- · Septic arthritis
- Erysipelas
- Lymphangitis
- Gas gangrene
 Q. Pitfalls (often missed)

A. Osteoarthritis hip

Osgood-Schlatter disorder

Spinal canal stenosis

Herpes zoster (early)

Nerve entrapment

'Hip pocket nerve'

Peripheral neuropathy
Trochanteric bursitis

Spinal causes of leg pain

Problems originating from the spine are an important, yet at times complex, cause of pain in the leg. Important causes are:

- nerve root (radicular) pain from direct pressure, esp. sciatica (L4−S₃)
 (□ 58)
- referred pain from:
 - disc pressure on tissues in front of the spinal cord
 - apophyseal joints
 - sacroiliac joints
- · spinal canal stenosis causing claudication

Vascular causes of leg pain

Occlusive arterial disease

Acute lower limb ischaemia

Sudden occlusion whether by embolism or thrombosis is a dramatic event which requires immediate diagnosis and management to save the limb.

Signs and symptoms—the 6 Ps

- Pain
- Pallor
- · Paraesthesia or numbness
- Pulselessness
- Paralysis
- · 'Perishing' cold

Management of acute ischaemia

Golden rules: Occlusion is usually reversible if treated within 4 h (i.e. limb salvage). It is often irreversible if treated after 6 h (i.e. limb amputation).

Treatment

- Intravenous heparin (immediately) 5000 U
- Emergency embolectomy (ideally within 4h) or
- · Arterial bypass if acute thrombosis in chronically diseased artery or
- · Stenting of vessels (a modern option)
- Amputation (early) if irreversible ischaemic changes

Lifelong anticoagulation with warfarin will be needed.

Chronic lower limb ischaemia

Chronic ischaemia caused by gradual arterial occlusion can manifest as intermittent claudication or rest pain in the foot.

Treatment

- General measures (if applicable): control obesity, diabetes, hypertension, hyperlipidaemia, cardiac failure.
- · Achieve ideal weight.
- Absolutely no smoking (the risk factor).
- Exercise: daily graduated exercise to the level of pain. Approx. 50% will improve with walking so advise as much walking as possible.
- · Try to keep legs warm and dry.
- · Maintain optimal foot care (podiatry).
- Drug therapy: aspirin 150 mg daily.

Note: Vasodilators and sympathectomy are of little value. ~1/3 progress, while the rest regress or don't change.

When to refer to a vascular surgeon

- · 'Unstable' claudication of recent onset; deteriorating
- · Severe claudication—unable to maintain lifestyle
- Rest pain
- 'Tissue loss' in feet (e.g. heel cracks, ulcers on or between toes, dry gangrenous patches, infection)

Venous disorders

Varicose veins

Varicose veins and pain They may be painless even if large and tortuous. Pain is a feature where there are incompetent perforating veins running from the posterior tibial vein to the surface through the soleus muscle.

Severe cases lead to the lower leg venous hypertension syndrome characterised by pain worse after standing, cramps in the leg at night, irritation and pigmentation of the skin, swelling of the ankles and loss of skin features such as hair.

Prevention

- · Maintain ideal weight.
- · High-fibre diet.
- Rest and wear supportive stockings if at risk (pregnancy, a standing occupation).

Treatment

- Keep off legs as much as possible.
- · Sit with legs on a footstool.
- Use supportive stockings or tights (apply in morning before standing out of bed).
- · Avoid scratching itching skin over veins.

Compression sclerotherapy

- Use a small volume of sclerosant (e.g. 5% ethanolamine oleate; STD).
- · Ideal for smaller isolated veins.

Surgical ligation and stripping

- The best treatment when a clear association exists between symptoms and obvious varicose veins (i.e. long saphenous vein incompetence).
- · Remove obvious varicosities and ligate perforators.

Superficial thrombophlebitis

Treatment The objective is to prevent propagation of the thrombus by uniform pressure over the vein.

- · Cover whole tender cord with a thin foam pad.
- Apply a firm elastic bandage (preferable to crepe) from foot to thigh (well above cord).
- Leave pad and bandage on for 7-10 d.
- · Bed rest with leg elevated is recommended.
- Prescribe an NSAID (e.g. indomethacin) for 14 d.

Note:

- · No anticoagulants are required.
- If the problem is above the knee, ligation of the vein at the saphenofemoral junction may be necessary.

Deep venous thrombosis (DVT)

DVT may be asymptomatic but usually causes tenderness in the calf. One or more of the following features may be present.

Clinical features

- · Ache or tightness in calf
- Acute diffuse leg swelling
- · Pitting oedema
- Tender 'doughy' consistency to palpation
- · Increased warmth (may be low-grade fever)

- · Pain on extension of foot
- · Tenderness (gently squeeze calves)

Predisposing conditions:

- thrombophilia (
 ¹ 438)
- thrombocytosis (↑ platelets)
- · polycythaemia rubra vera

Investigations

- Duplex US: accurate for above-knee thrombosis; improving for distal calf (repeat in 1 wk if initial test normal)
- · Contrast venography, esp. if ultrasound -ve
- · MRI is very accurate
- D dimer test (consider in certain cases): where probability of DVT is low, a normal D dimer usu. excludes diagnosis

Management Prevention (cases at risk):

- · early and frequent mobilisation
- · elastic or graded compression stockings
- · physiotherapy
- · pneumatic compression
- · electrical calf muscle stimulation during surgery
- surgery: unfractionated heparin 5000 U (SC) bd or tds (LMW heparin for orthopaedic surgery)
- · long flights/sitting: LMWH prior to flying and on arrival

Treatment

- Admit to hospital (usu. 5-7 days) but can treat as an outpatient
- Collect blood for APTT, INR and platelet count (check kidney function)
- One-way-stretch elastic bandages (both legs to above knees) or class II graded compression stocking to affected leg, esp. if swelling
- IV heparin—5000 U statim SC then continuous monitored infusion (at least 10 days); aim for APTT 1.5–2 times normal *or*
- · Daily SC injection of LMW heparin (enoxaparin)
- Oral anticoagulant (warfarin) for 6 mths (monitor with INR)
- Mobilisation upon resolution of pain, tenderness and swelling Surgery is necessary in extensive and embolising cases.

Cellulitis and erysipelas of legs

- · Rest in bed
- · Elevate limb (in and out of bed)
- · Aspirin for pain and fever

Treatment

Streptococcus pyogenes (the common cause)

Severe: di (flu)cloxacillin (child: 50 mg/kg up to) 2 g IV, 6 hrly

Less severe: procaine penicillin 1g IM 12 hrly or phenoxymethyl penicillin 500 mg (o) 6 hrly

If penicillin sensitive: clindomycin 450 mg (o) 8 hrly

Staphylococcus aureus

Severe, may be life-threatening: di(flu)cloxacillin 2 g IV 6 hrly Less severe: di(flu)cloxacillin 500 mg (o) 6 hrly *or* cephalexin 500 mg (o) 6 hrly if penicillin sensitive

Nocturnal cramps

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Lice infestation

Head lice

Treatment Pyrethrins 0.165% with piperonyl butoxide 2% (e.g. Lyban) foam *or* shampoo *or* Permethrin 1% or Maldison 1%

Method

- · Massage well into wet hair.
- Leave for a minimum of 20 minutes except maldison—leave 8 h (usu. overnight).
- · Wash off thoroughly (avoid eye contact).
- · Comb with a fine-toothed comb.
- · Repeat after 7 d and comb.

Note:

- · The hair does not have to be cut short.
- Treat all household child contacts if lice or nits found on inspection.
- Wash clothing and bedclothes after treatment (normal machine wash).
- If resistant, use Permethrin + Cotrimoxazole (o) for 10 d.

Eyelash involvement

· Apply petrolatum (Vaseline) bd for 8 d, then pluck off remaining nits.

Handy tips for removal of nits

- · Use a hair conditioner on dry hair, comb with a fine-toothed comb
- Apply a 1:1 mixture or water and vinegar, leave 15 mins then comb

Pubic lice

Can use same topical agents as for head lice.

Method

- · Apply to pubic hair.
- Leave for a time according to manufacturer's instructions (e.g. 10 mins for Lyban and Permethrin 1%, 12 h for Maldison).
- · Wash off thoroughly.
- · Wash underwear and bedclothes after treatment.
- Repeat after 7d (maybe third treatment).
- · Treat sexual partners.

Lichen planus

Lichen planus is a disorder of unknown aetiology characterised by pruritic violaceous flat-tipped papules, mainly on the wrists and legs.

Clinical features

- · Young and middle-aged adults
- · Small, shiny, lichenified plaques
- · Symmetrical and flat-tipped
- · Violaceous
- · Flexor surfaces: wrists, forearms, ankles
- Can affect oral mucosa—white streaks or papules or ulcers
- · Can affect nails and scalp

Management

- · Explanation and reassurance
- Usually resolves over months, leaving discoloured marks without scarring
- · Recurrence rare
- Asymptomatic lesions require no treatment
- If symptomatic (e.g. itching):
 - topical fluorinated steroids under plastic occlusion
 - intralesional corticosteroids for hypertrophic lesions



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Melanoma

Early diagnosis is vital to outcome. Thickness of a melanoma when it is removed is the major factor determining prognosis: it is vital to detect melanomas when they are in the thin stage and look like an unusual freckle. An irregular border or margin is characteristic of the tumour.

Clinical features

- Typical age range 30–50 yrs (av. 40)
- · Can occur anywhere on the body. More common:
 - lower limb in women
 - upper back in men
- · Often asymptomatic
- · Can bleed or itch

Change The sign of major importance is a recent change in a 'freckle' or mole:

- · change in size: at edge or thickening
- · change in shape
- change in colour: brown, blue, black, red, white, inc. combinations
- · change in surface
- · change in the border
- · bleeding or ulceration
- other symptoms (e.g. itching)
- · development of satellite nodules
- lymph node involvement

Beware of the non-pigmented melanoma, esp. on the sole of the foot.

Pitfalls/traps in diagnosis

- · Nodular melanomas
- Small melanoma
- Amelanotic melanoma
- Regressing melanoma
- · Rapidly growing melanoma

The early nodular melanoma problem The ABCD rule often does not apply. Early nodular melanomas tend to be symmetrical, non-pigmented, even in colour, small diameter, firm and grow vertically, i.e. elevated. They are often mistaken for a haemangioma or a pyogenic granuloma. Refer if suspicious.

Management

- Early diagnosis and referral to specialist unit vital.
- Surgical excision with a narrow but significant margin is the treatment.

Guidelines for excision margins:

- · suspicious lesion-margin 2 mm
- · melanoma in situ-margin 5 mm
- melanoma < 1 mm thick—margin 1 cm > 4 mm thick—margin 2 cm
- · Follow-up is based on the tumour thickness:

 $\leq 1 \text{ mm}$ —6 mthly for 2 yrs

> 1 mm—regularly for 10 yrs

Table 59 Features and associations of melanoma subtypes

		* * * * * * * * * * * * * * * * * * * *	
Melanoma subtype	Frequency %	Location	Average age
Superficial spreading	70	Trunk (back), limbs (legs)	Middle-aged
Nodular	20	Trunk, limbs	Middle-aged
Lentigo maligna	7.5	Head, neck	Elderly
Acral lentiginous	2.5	Palms, soles,	Not known
		mucosae	

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Melasma (chloasma)

Treat with topical 2% hydroquinone in sorbolene cream (long course). Limit sun exposure.

Meniere's syndrome

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Menopause syndrome

The menopause is the cessation of the menses for longer than 12 months. Some women experience adverse effects.

Symptoms

- Vasomotor, for example:
 - hot flushes (80%)
 - night sweats (70%)
 - palpitations (30%)
- · Psychogenic, for example:
 - tearfulness/depression
 - irritability
 - anxiety/tension
- Urogenital (60%), for example:
 - atrophic vaginitis
 - vaginal dryness (45%)

- dyspareunia
- · Musculoskeletal, e.g. non-specific muscular aches
- · Skin and other tissue changes, (e.g. dry skin)
- · Other, for example:
 - unusual tiredness
 - headache

Investigations Apart from a Pap smear, consider the following tests:

- urinalysis
- · FBE, lipids inc. HDLC
- · liver function tests
- · mammography (all women, preferably after 3 mths on HRT)
- diagnostic hysteroscopy and endometrial biopsy if undiagnosed vaginal bleeding
- · bone density study (if risk factors)

If diagnosis in doubt (e.g. perimenopause; younger patient <45 yrs; hysterectomy):

- · serum FSH
- serum oestradiol diagnosti

Hormone replacement therapy

HRT has to be tailored to the individual patient and depends on several factors, inc. the presence of a uterus, individual preferences and tolerance. Aim for a max. of 3–5 yrs treatment then review. (Consider risks.)

Table 60 A summarised regimen for HRT

Oestrogen

Oral medication (typical doses)

- conjugated oestrogen (Premarin) 0.625 mg or
- piperazine oestrone (Ogen)
 1.25 mg or
- oestradiol valerate (Progynova) 2 mg

Dosage

 ½ tab for 7d initially, then one tab daily continuous

Skin preparations

- · oestradiol patches
- · oestradiol 0.1% topical gel

Progestogen

- medroxyprogesterone 10 mg or
- norethisterone 2.5–5 mg,
 1 tab for first 12 d of month

To induce amenorrhoea, give progestogen continuously daily, instead of cyclically:

- medroxyprogesterone 2.5 mg or
- norethisterone 1.25 mg

Uterus present

Oestrogen and progestogen

No uterus (hysterectomy)

Oestrogen only

Perimenopausal regimen

Combined oestrogen and progesterone sequential therapy (e.g. Trisequens, Menoprem)

Combination patch

- oestrogen plus progestogen (first half of cycle)
- oestrogen only (sec half of cycle)

Combination pill

· oestradiol 1 mg, norethisterone 0.5 mg



Vaginal dryness

First line therapy is non-hormonal e.g. Replens or K-Y gel. Second line is a low dose vaginal oestrogen pessary.

Menorrhagia

Abnormal uterine bleeding is a common problem. Menstrual blood loss is normally < 80 mL (mean 30–40 mL). Menorrhagia is a menstrual loss of > 80 mL per menstruation.

Features of menorrhagia:

- · heavy bleeding possibly with clots
- · if dysmenorrhoea, suspect endometriosis or PID
- the most common cause is dysfunctional uterine bleeding
- the most common organic causes are fibroids and adenomyosis (endometrium in uterine myometrium). Also, endometriosis, endometrial polyps and PID, but neoplasia and ectopic pregnancy must be excluded

Various drugs can be implicated (e.g. hormone therapy, anticoagulants, cannabis, various steroids, some antihypertensives, heavy smoking).

Dysfunctional uterine bleeding (DUB)

DUB is a diagnosis of exclusion so careful investigations are required to exclude pathology.

Symptoms

- Heavy bleeding: saturated pads, frequent changing, 'accidents', 'flooding', 'clots'
- Prolonged bleeding
 - menstruation > 8 d or
 - heavy bleeding > 4 d
- Frequent bleeding periods occur more than once every 21 d

General treatment rules

< 35 yrs: medical treatment

> 35 yrs: hysteroscopy and direct endometrial sample

Drug therapy regimens See Tables 61 and 62.

Table 61 Regimens used in management of menorrhagia

NSAIDs (prostaglandin inhibitors) Mefenamic acid 500 mg tds (first sign menses to its end)

Naproxen 500 mg statim then 250 mg tds

Combined oestrogen-progesterone

This is an important first-line therapy, e.g. 50 mcg oestrogen + 1 mg norethisterone (e.g. Norinyl-1)

Progestogens (esp. for anovulatory patients)

Norethisterone 5–15 mg/d for 14 days *or* Medroxyprogesterone acetate 10–30 mg/d

Give progestogens from day 5–25 (ovulatory patients)

Danazol

Approved for short-term treatment (6 mths or less) of severe menorrhagia—dosage 200 mg/d Antifibrinolytic agents

Tranexamic acid 1 g (o) qid, days 1–4

Others

LHRH analogues

Progestogen-releasing IUCDs

Table 62 Typical treatment options for acute and chronic heavy bleeding

Acute heavy bleeding

- · curettage/hysteroscopy
- IV oestrogen (Premarin 20 mg) or

NB: practice tip for acute flooding:

oral high-dose progestogens

 e.g. norethisterone 5–10 mg 2 hrly for 4
 doses or until bleeding stops, then 5 mg
 bd or tds (or 10 mg/d) for 14 d

Chronic bleeding

- For anovulatory women
 - cyclical oral progestogens for 14 d
 - tranexamic acid

- For ovulatory women
 - cyclical prostaglandin inhibitor (e.g. mefenamic acid) or oral contraceptive
 - progesterone-releasing IUCD (Mirena)
 - antifibrinolytic agent (e.g. tranexamic acid, dose as above)

Men's health: an overview

Being male has been described as a health hazard. Men have a significantly greater incidence of medical conditions, such as cardiovascular disease, accidental death, suicide, obesity, alcoholism, HIV and hypertension.

Key facts and checkpoints

- The average life expectancy is 5 yrs less than females.
- Up to 14 yrs, males are twice as likely to die from accidents.
- Between 15-24 yrs, males are 3 times more likely to die from motor vehicle accidents (MVAs) and 4 times from suicide.
- Between 25–65 yrs, 4 times more likely to die from coronary artery disease, 3 times from MVAs; 4 times from suicide; 4 times from other accidents and twice as likely from cancer.

- At least 4 out of 5 heroin overdoses occur in males.
- 90% of those convicted for acts of violence are males; 80% of victims are males.

Metabolic syndrome

Beware of this deadly syndrome (syndrome x) associated with increased risk of Type 2 diabetes and atherosclerotic vascular disease.

- Upper truncal obesity (↑ waist circumference) plus any 2 or more of
- ↑ triglycerides > 1.7 mmol/L.
- ↓ HDL cholesterol < 1.03 ♂: < 1.29 mmol/L ♀
- fasting glucose ≥ 5.6 mmol/L
- BP≥130/85

Migraine attack

□ 273

Milker's nodules

In humans two to five papules appear on the hands about I wk after handling cows' udders or calves' mouths. Self-limiting and remit in 5–6 wks. Can give intralesional injection of corticosteroid.

Molluscum contagiosum

- · Can be spread by scratching and use of steroids.
- · Be careful not to overtreat and run the risk of scarring.
- There is a case for reassuring parents and waiting for spontaneous resolution.
- · Avoid using the bath, esp. with siblings.

Treatment options

- · Liquid nitrogen (a few secs)
- Pricking the lesion with a pointed stick soaked in 1% or 3% phenol
- Application of 15% podophyllin in friar's balsam (compound benzoin tincture)
- Application of 30% trichloracetic acid
- · Destruction by electrocautery or diathermy
- · Ether soap and friction method
- Lifting open the tip with a sterile needle inserted from the side (parallel to the skin) and applying 10% povidone-iodine (Betadine) solution (parents can be shown this method and continue to use it at home for multiple tumours)
- · Paint with clear nail polish/acetone

- Cover with a piece of Micropore tape or Leucosilk—change every day after showering (may take several months)
- For large areas, aluminium acetate (Burow's solution 1:30) applied bd can be effective

'Monkey muscle' tear

This is a torn medial head of gastrocnemius.

- RICE treatment for 48 h (ice packs every 2 waking h)
- · Compress with firm elastic bandage (toes to below knee)
- · Crutches if nec. for severe cases
- · Raised heel on shoe aids mobility and comfort
- · Commence mobilisation (inc. active exercises) after 48 hrs rest
- · Physiotherapist referral for gentle stretching and advice

Morning sickness

Pregnancy sickness 2 363.

Mouth soreness

Key facts and checkpoints

- Dental trauma or neglect is an important cause of many oral mucosal disorders, such as ulceration, bleeding gums and hyperplasia.
- · Non-healing oral ulcers warrant biopsy to exclude SCC.
- If oral mucosal carcinoma is suspected, palpate the lesions to check for induration or a firm discrete edge and check regional lymph nodes.
- Persistent erythroplasia or leucoplakia persisting for > 3 wks after injury (e.g. sharp tooth surface or partial denture) should be biopsied.
- Consider EBV infection with unusual faucial ulceration and petechial haemorrhages of soft palate.
- Recurrent aphthous ulceration (
 40) is the most common oral
 mucosal disorder.

Gingivitis

Features

- Red, swollen gingivae adjacent to teeth (see Fig. 78 overleaf)
- Bleeds with gentle probing
- Halitosis
- · Usually no pain
- Dental plaque accumulation with calculus (tartar)
- Invariably secondary to local factors (e.g. poor oral hygiene, incorrect tooth brushing)



Table 63 Mouth ulcers: diagnostic strategy model

Q. Probability diagnosis

A. Recurrent aphthous ulceration Trauma

Acute herpes gingivostomatitis Candidiasis

Q. Serious disorders not to be missed

A. Carcinoma: SCC, salivary gland Leukaemia Agranulocytosis

HIV

Syphilitic—chancre or gumma
Tuberculosis

Q. Pitfalls (often missed)

A. Aspirin burn Herpes zoster

Glandular fever (EBV)

Lichen planus

Coxsackie virus: herpangine, hand, foot and mouth d.

Lupus erythematosus

Immunosuppression (CMV ulceration)

Rarities
Behcet's syndrome

Pemphigoid and pemphigus

Erythema multiforme Radiation mucositis

Q. Seven masquerades checklist

A. Depression -

Diabetes Drugs

Scurvy

√ Candida√ e.g. cytotoxics,

Anaemia √

phenytoin
√ iron-deficiency

Table 64 Bleeding/painful gums: diagnostic strategy model

Q. Probability diagnosis

A. Gingivitis/periodontal (gum) disease

Trauma: poor fitting or partial dentures

Factitious: excessive brushing Drugs: warfarin overdose

Q. Serious disorders not to be missed

A. Oral carcinoma
 Benign neoplasms (e.g. epulides)
 Blood dyscrasias (e.g. AML)
 Acute herpetic gingivostomatitis

Q. Pitfalls (often missed) but uncommon

A. Autoimmune disease (e.g. lichen planus, SLE)

Hereditary haemorrhage telangiectasia Malabsorption



Figure 78 Gingivitis (left) and periodontitis

Periodontitis

This is a sequel to gingivitis and shows periodontal ligament breakdown with recession or periodontal pocketing and alveolar bone loss. There is possible loosening of teeth and periodontal abscess formation (Fig. 78).

An underlying medical condition must be suspected.

Treatment of above conditions

- · Adjunct treatment (e.g. plaque removal)
- Chlorhexidine o.i-o.2% aqueous solution as a mouthwash bd for iod: this can be followed by a phenolic compound mouthwash long term
- Systemic antibiotics (not topical) for periodontal abscess formation (e.g. amoxycillin 250 mg (o) tds for 5 d—drug of choice)

For severe or unresponsive cases add metronidazole.

Oral dysaesthesia

The classic chronic burning sensation of the oral cavity appears to have a neuropathic and/or psychological basis. Symptoms include:

- · altered sensitivity: burning pain or 'raw' sensation
- · altered taste: sweet, salty or bitter
- · altered saliva (subjective): quality and quantity
- altered tooth sensation (e.g. 'the phantom tooth pain')

Consider underlying cause:

- haematinic deficiency: iron, folate, vitamin B₁₂
- autoimmune disorder (e.g. Sjögren's syndrome)
- endocrine disorder (e.g. diabetes)
- psychological factors

Treatment Consider:

- clonazepam o.5-I mg bd or if resistant
- gabapentin (Neurontin)

Angular chelitis and fissures

Redness, soreness, maceration at corners of mouth.

- · Check dentures and hygiene.
- Apply dimethicone cream for protection.
- If persistent and/or for suspected Candida, use antifungal cream.
- 'Golden' crusting indicates S. aureus.

Bad taste

- · Look for cause (e.g. teeth, gums, depression).
- Consider Ascoxal tabs, I-2 tabs dissolved in 25 mL warm water as mouthwash for 2 rinses up to 5 times/d.

Mouth ulcers

As for aphthous ulcers, 🗅 40.

Multiple sclerosis (MS)

MS is the most common cause of progressive neurological disability in the 20–50 yr age group. Early diagnosis is difficult.

Commoner clinical features

- · Transient motor and sensory disturbances
- · Upper motor neurone signs
- · Common initial symptoms include:
 - visual disturbances of optic neuritis
 - diplopia (brain-stem lesion)
 - weakness in one or both legs (paraparesis) or hemiparesis
 - sensory impairment in the lower limbs and trunk
 - vertigo (brain-stem lesion)
- · Subsequent remissions and exacerbations

Lesions separated in time and place.

MRI the best investigation: sensitivity 90%.

Management

- · Education and support.
- Referral to a neurologist.
- · No specific drug for MS.
- Corticosteroids e.g. methylprednisolone reduce severity of acute attack and are used for relapses.
- Beta-interferon, glatiramer and the monoclonal antibody, natalizumab, may reduce number of relapses (under evaluation but seem effective).
- Methotrexate and folic acid used to reduce progressive disease.

Myocardial infarction and NSTEACS

NSTEACS = non ST elevated acute coronary syndrome.

Clinical guidelines

- · Variable pain; may be mistaken for indigestion
- · Similar to angina but more oppressive
- · So severe, patient may fear imminent death—'angor animi'
- Approx. 20% have no pain
- · 'Silent infarcts' in diabetics, hypertensives and elderly
- 60% of those who die do so before reaching hospital, within 2h of the onset of symptoms
- Hospital mortality is 8–10%

Physical signs These may be:

- · no abnormal signs
- pale/grey, clammy, dyspnoeic
- · restless and apprehensive
- variable BP: ↑ with pain; ↓ heart pump failure
- · variable pulse: watch for bradyarrhythmias
- mild cardiac failure: 3rd or 4th heart sound, basal crackles

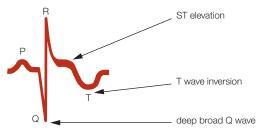


Figure 79 Typical ECG features of myocardial infarction, illustrating a Q wave, ST elevation and T wave inversion

Investigations

- I *ECG*: This is valuable with characteristic changes in a full thickness induction. The features are shown in the figure above.
- 2 Cardiac enzymes: The typical enzyme patterns are presented in the figure below. Troponin 1 or T, which peaks at about 10 h, is now the preferred test. The elevated enzymes can help time the infarct.
- 3 Technetium pyrophosphate scanning: Scans for 'hot spots'.
- 4 Echocardiography: Used to assist diagnosis when other tests are not diagnostic and to assess cardiac function, e.g. ejection fraction and cardiac wall motion.

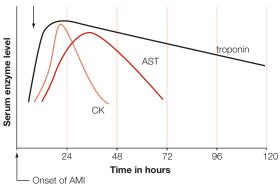


Figure 80 Typical cardiac enzyme patterns following myocardial infarction

Note: The clinical diagnosis may be the most reliable and the ECG and enzymes may be –ve.

Management of myocardial infarction & NSTEACS General principles follow.

- · Aim for immediate attendance if suspected.
- · Call a mobile coronary care unit, esp. if severe.
- Optimal treatment is in a modern coronary care unit with coronary catheter laboratory (if possible) with continuous ECG monitoring (first 48h), a peripheral IV line and intranasal oxygen.
- Pay careful attention to relief of pain and apprehension. Establish a caring empathy with the patient.
- Give aspirin as early as possible (if no contraindications).
- Prescribe a beta-blocker drug and an ACE inhibitor early (if no contraindications and appropriate)
- Prevent possible sudden death in early stages from ventricular fibrillation by monitoring and availability of a defibrillator.

First-line management (e.g. outside hospital)

Perform ECG (assistant) and classify ACS into STEMI or NSTEACS and notify the medical facility that will be receiving the patient.

- Oxygen 4-6 L/min
- · Secure an IV line
- Glyceryl trinitrate spray or 300–600 mcg (½–1 tab) SL (every 5 mins if nec.—max. 3 doses)
- Aspirin 150-300 mg

Add if necessary:

 morphine 2.5–5 mg IV statim bolus: 1 mg/min slowly until pain relief (up to 15 mg)

(If feasible it is preferable to give IV morphine I mg/min until relief of pain: this titration is easier in hospital.)

Hospital management

- · As for first-line management.
- Confirm ECG diagnosis: STEMI or NSTEACS.
- Take blood for cardiac enzymes, particularly troponin levels, urea & electrolytes.
- Organise an urgent cardiology consultation for risk stratification and a decision whether to proceed to coronary angiography and coronary reperfusion with percutaneous intervention (PCI), or CABGS or with thrombolysis.

Management of STEMI The optimal first-line treatment for the patient with a STEMI is urgent referral to a coronary catheter laboratory within 60 mins of the onset of pain for assessment after coronary angiography for percutaneous transluminal coronary angioplasy (PTCA). If available

and performed by an interventional cardiologist it has the best outcomes (Level $\scriptstyle \rm I$ evidence).

The principle is to achieve rapid reperfusion with primary angioplasty with a stent

Adjunct therapy will include aspirin/clopidogrel and heparin, and possibly a glycoprotein IIb/IIIa platelet inhibitor, (e.g. tirofiban or abciximab).

 Table 65
 Acceptable time delay guidelines to PCI (from 1st medical contact to balloon inflation)

Symptom time	<1 h	1–3 h	3–12 h	>12 h
Acceptable delay	60 mins	90 mins	120 mins	not recommended

Management of NSTEAC All patients with NSTEACs should have their risk stratified to direct management decisions.

Fibrinolytic therapy If angioplasty is unachievable through either timing or the unavailability of the service (such as rural locations) thrombolysis is an indication for STEMI and the sooner the better, but preferably within 12 h of the start of chest pain. The decision should be made by an experienced consultant esp. as PCI is not usually possible once fibrinolytic therapy has been given.

Second generation fibrin-specific agents (reteplase, alteplase or tenecteplase) are the agents of choice. Streptokinase can be used but it is inappropriate for use in Indigenous patients and those who have received it on a previous occasion. There are several other contraindications for the use of fibrinolytic agents.

- Full heparinisation for 24–36 h (after re-PA—not after streptokinase) esp. for large anterior transmural infarction with risk of embolisation supplemented by warfarin.
- Use LMW heparin, e.g. enoxaparin 1 mg/kg sc bd or fractionated heparin 5000-7500 units SC 12 hrly.
- Beta-blocker (if no thrombolytic therapy or contraindications) as soon as possible:
 - atenolol 5–10 mg IV or 25 mg (o) statim ightarrow 25–100 mg (o) /d or
 - metoprolol 5–10 mg IV or 25 mg (o) statim \rightarrow 50 mg (o) bd (use a non-dihydropyridic CCB if BBs are contraindicated).
- · Consider glyceryl trinitrate IV infusion if pain recurs.
- Start early introduction of ACE inhibitors (within 24h) in those with significant left ventricular (LV) dysfunction (and other indications).

Ongoing management

- · Education and counselling
- Bed rest 24-48h
- · Check serum potassium and magnesium
- Early mobilisation to full activity over 7-12 d

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Post MI drug management

Proven:

- β-blockers—within 12 h
- · ACE inhibitors—within 24 h
- aspirin 160-325 mg ± clopidogrel
- · lipid-lowering drugs (e.g. statins)
- warfarin

Possible/promising

- folic acid, vitamins B₆ & B₁₂
- · Light diet
- Sedation
- β -blocker (o): atenolol or metoprolol
- Warfarin where indicated (certainly if evidence of thrombus with echocardiography)
- ACE inhibitors for LV failure and to prevent remodelling
- · Continue ACE inhibitors
- Aspirin 100-300 mg/d or clopidogrel 75 mg/d
- Warfarin where indicated (at least 3 mth)

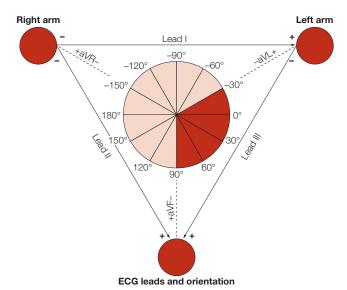


Figure 81 ECG leads and orientation (based on Einthoven triangle)

The ECG and myocardial infarction

The ECG leads and orientation are shown in Figure 81. The typical ECG changes of acute myocardial infarction (AMI) with pathological Q waves, S-T segment elevation and T wave inversion are highlighted in leads III and AVL of acute inferior infarction (Fig. 82). Lead AVL facing the opposite side of the heart shows reciprocal S-T depression.

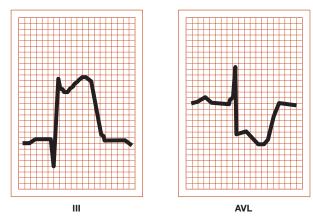


Figure 82 Two leads from ECG of AMI (inferior infarction)

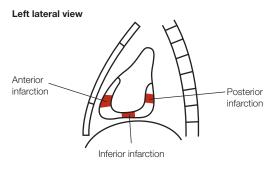
From Figure 83 it is apparent that:

- The leads overlying the anterior surface of the left ventricle will be V2-V5 and these will be the leads giving evidence of anterior infarction.
- 2 The leads overlying the lateral surface will be lateral chest leads V5–6.
- 3 No leads directly overlie the inferior or diaphramatic surface. However, the left leg leads, although distant, are in line with this surface and will show evidence of infarction in this area.
- 4 There are no leads directly over the posterior surface.

Table 66

Table 00		
Region of heart wall	Artery occluded	Leads showing ECG changes
Anterior	L anterior descending	V2-V5, I, avL
Lateral	Circumflex, branch of LAD	V5-V6, I, aVL
Anteroseptal	LAD	V1-V4
Inferior	R coronary	II, III, aVF, aVL (reciprocal)
Posterior	RCA or circumflex	V1-V2 (unclear)

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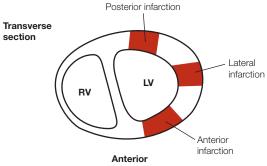


Figure 83 Areas of heart wall affected by AMI

Myoclonic jerks (periodic limb movement disorder)

These refer to muscular jerks of the legs (in particular), usually beginning in adolescence or early adult life—usually in first hour after waking, esp. after a 'heavy' late night.

Treatment

- Clonazepam Img (o) nocte, increasing to 3 mg (o) nocte if nec. or
- Sodium valproate 100 mg (o) nocte or
- Levodopa + carbidopa (e.g. Sinemet 100/25, 2 tabs nocte, bedtime)

| N |

Nail disorders

The main nail problems encountered in general practice are trauma, onychomycosis, infection, ingrowing toenails, paronychia and psoriasis. Damage to the nail from trauma or disease results in nail dystrophy. The problem of nail changes due to onychotillomania, be it from excessive nail biting, picking or cleaning, should be suspected from the history and examination.

Table 67 Abnormal nails: diagnostic strategy model (modified)

Q. Probability diagnosis

A. Fungal infection: onychomycosis

Trauma to nail bed Trauma from biting

Trauma from habit picking

Onychogryphosis

Paronychia Psoriasis

O. Serious disorders not to be missed

A. Melanoma

Iron deficiency: koilonychia Liver disease: leuconychia Endocarditis: splinter haemorrhages

Chronic kidney white bands, half failure:

Glomus tumour Bowen's disorder

Q. Pitfalls (often missed)

A. Atopic dermatitis Lichen planus

> Pyogenic granuloma (usually with ingrowing toenails) Drug effects (e.g. tetracycline)

Pseudomonas infection Connective tissue disorders (e.g. SLE)

Arsenic (mee's stripes)

Onycholysis

Refers to the separation of the nail plate from the underlying nail bed and is a sign rather than a disease. This separation creates a subungual space with an air interface that gathers unwanted debris, such as dirt and keratin.

Self-induced trauma is a common cause from obsessive manipulation, inc. meticulous cleaning and frequent manicuring.

The band of discolouration at the base of the separated nail is usually in a straight line compared with other causes such as psoriasis and tinea. Tinea may be distinguished from other causes by white or yellow streaks or 'spears' travelling proximally in the nail.

Greenish discolouration indicates invasion by *Pseudomonas pyocynae* or *Aspergillus*.



Figure 84 Onycholysis

Management First exclude psoriasis, tinea (check toe webbing) and trauma (check history).

Fingernails

- · Keep nails as short as possible
- · Avoid insertion of sharp objects under nails for cleaning
- Apply tape (micropore or similar) over free edge for months, until healed
- Avoid unnecessary soaps and detergents—wear gloves for housework, gardening etc.
- · Keep hands out of water
- · Use a mild soap and shampoo

Toenails

- · Exclude fungal infection (clinical tinea pedis)—culture
- · Improve footwear to avoid any rubbing

Pharmaceutical treatment

- Daily application of an imidiazole (e.g. clotrimazole) or a polygene (e.g. terbinafine)
- For Pseudomonas infection soak the nails in vinegar or Milton's solution and/or apply gentamicin sulphate cream

Onychomycosis

This is fungal nail infection that mainly affects toenails. The most common form is distal lateral subungual caused by *Trichophyton* sp. A superficial white onychomycosis with distinct edges is also common. *C. albicans* and other moulds are not a common factor. Diagnosis is by culture and histology of the distal nail plate clippings placed in formalin. For more details on treatment see \$\mathbb{1}\$ 442 under tinea unguium. The treatment of choice for all types is oral terbinafine (cures 70–80%).

Onychogryphosis

Onychogryphosis, or irregular thickening and overgrowth of the nail, is commonly seen in the big toenails of the elderly and appears to be related to pressure from footwear. It is really a permanent condition. Simple removal of the nail by avulsion is followed by recurrence some months later. Permanent cure requires ablation of the nail bed after removal of nail. Two methods of nail ablation are:

- · total surgical excision
- cauterisation with phenol (with care)

Brittle nails

These are age related and are usually caused by local physical factors, such as repeated water immersion, and exposure to chemicals, such as detergents, alkalis and nail polish removers. Systemic causes such as deficiency of iron and vitamins are not considered to be a common factor.

Management

- · Avoid excessive hydration and trauma.
- · Wear rubber gloves with cotton liners for wet work.
- Massage Vaseline or nail creams (e.g. Eulactol or Neostrat) into the nail several times daily.
- Nail polishes and hardeners (preferably without formalin) may give a good cosmetic result.

Nail apparatus melanoma

Features

- · Responsible for 2-3% of all melanoma
- · All age groups but esp. in 7th decade
- · Presents as a longitudinal pigmented streak in the nail
- Usually diagnosed late
- Mortality > 50%
- · Early recognition may result in a cure

Management

- · All cases require a longitudinal nail biopsy for diagnosis
- If confirmed treatment is based on Breslow thickness and level of invasion
- Level 1 or in situ-removal of whole nail apparatus
- Invasive melanoma—amputation of distal phalanx

Paronychia

D 382

Ingrowing toenails

<u>308</u>

Subungual haematoma

Methods to release blood in the acute injury phase include:

- · drilling a hole by twisting a standard hypodermic needle
- · using the red hot end of an extended paper clip
- piercing with the hot wire of an electrocautery unit

Penetration must be as superficial as possible.

Advise the patient that the nail will eventually separate and a normal nail will appear in 6–9 mths.

Nappy rash

The main factor is dampness due to urine and facces. Check for faccal impaction/spurious diarrhoea. The commonest type is irritant dermatitis but consider also:

- · Candida albicans (invariably present)
- · seborrhoeic dermatitis
- atopic dermatitis
- · psoriasis

Tends to be worse with teething (8–12 mths).

Irritant dermatitis

- · Keep the area dry.
- Change wet or soiled napkins often—disposable ones are good.
- · Wash gently with warm water and pat dry (do not rub).
- · Avoid excessive bathing and soap.
- Avoid powders and plastic pants.
- · Use emollients to keep skin lubricated e.g. zinc oxide and castor oil cream.
- Standard treatment for persistent or widespread rash 1% hydrocortisone with nystatin or clotrimazole cream (qid after changes)—can get separate steroid and antifungal creams and mix before application. If seborrhoeic dermatitis: 1% hydrocortisone and ketoconazole ointment.

Narcotic dependence

Typical profile of a narcotic-dependent person

- Male or female: 16–30 yrs.
- Family history: often severely disrupted (e.g. parental problems, early death, separation, divorce, alcohol or drug abuse, sexual abuse, mental illness, lack of affection).
- Personal history: low threshold for toleration, unpleasant emotions, poor academic record, failure to fulfil aims, poor self-esteem.

Many of the severe problems are due to withdrawal of the drug.

Withdrawal effects These develop within 12h of ceasing regular usage. Max. withdrawal symptoms usually between 36–72h:

- · anxiety and panic
- · irritability
- chills and shivering
- excessive sweating
- 'gooseflesh' (cold turkey)
- · loss of appetite, nausea (possibly vomiting)

- lacrimation/rhinorrhoea
- · tiredness/insomnia
- muscle aches and cramps
- abdominal colic
- diarrhoea

Management Management is complex because it includes not only the medical management of physical dependence and withdrawal but also of the individual complex social and emotional factors. The issue of HIV prevention also has to be addressed. Patients should be referred to a treatment clinic and then a shared care approach can be used. The treatments include 'cold turkey' with pharmacological support, acupuncture, megadoses of vitamin C, methadone substitution and drug-free community education programs.

Methadone maintenance programs that include counselling techniques are widely used for heroin dependence.

Naltrexone, the new oral opioid antagonist, and bupremorphine, which is now the preferred agent, have a place in management and are being trialled. Methadone used appropriately can save lives but if not can be fatal.

- · If autonomic signs, use clonidine.
- · If anxiety, use diazepam.

Neck pain

Cervical dysfunction

Cause Minor injury causing dysfunction, inc. stiffness in facet joints.

Table 68 Neck pain: diagnostic strategy model (modified)

Q. Probability diagnosis

- A. Vertebral dysfunction Traumatic 'strain' or 'sprain' Cervical spondylosis
- Q. Serious disorders not to be missed
- A. Vascular
 - · angina
 - · subarachnoid haemorrhage Severe infections
 - osteomyelitis

 - · meningitis Neoplasia

Vertebral fractures or dislocation

Q. Pitfalls (often missed)

A. Disc prolapse

Myelopathy (weakness in arms

Cervical lymphadenitis

Fibromyalgia syndrome

Thyroiditis

Outlet compression syndrome (e.g. cervical rib)

Polymyalgia rheumatica

Ankylosing spondylitis

Rheumatoid arthritis

Depression

Features

- Deep ache in neck
- · Pain may radiate to head or suprascapular area
- Variable restriction of neck movement
- X-rays usually normal

Management

- · Education with advice, such as good posture.
- · Basic analgesics (e.g. paracetamol).
- · Neck exercise program (crucial).
- Cervical mobilisation by appropriately trained therapist. Consider manipulation by expert (with caution) for stubborn 'locked' neck.

Cervical spondylosis

Cause Degenerative disease in older persons.

Features Dull, aching neck pain with stiffness.

Management

- · Referral for physiotherapy, inc. warm hydrotherapy
- · Regular mild analgesics (e.g. paracetamol)
- NSAIDs: a trial for 3 wks then review (use judiciously)
- · Gentle mobilising exercises as early as possible
- · Passive mobilising techniques
- · Outline general rules to live by

Acute torticollis

Torticollis (acute wry neck) means a lateral deformity of the neck and is usually a transient self-limiting, acutely painful disorder with associated muscle spasm of variable intensity. Most likely due to acute dysfunction of mid-cervical facet joints.

Management

- Pain relief—consider antispasmodics (e.g. diazepam)
- Gentle mobilisation exercises
- Muscle energy therapy (very effective)

Whiplash syndrome

Treatment

- Provide appropriate reassurance and patient education.
- Compare the problem with a sprained ankle, which is a similar injury.
- Inform patient that an emotional reaction of anger, frustration and temporary depression is common (lasts about 2 wks).
- · X-ray recommended.
- · Rest initially but mobilise as soon as poss.
- Cervical collar (limit to 2 d).
- · Analgesics (e.g. paracetamol); avoid narcotics.
- · NSAIDs for 2 wks.
- Tranquillisers, mild—up to 2 wks.
- · Physiotherapy referral.

- Neck exercises (as early as possible).
- · Heat and massage; 'spray and stretch'.
- · Passive mobilisation (not manipulation).

Needlesticks and sharps injuries

Management

- Squeeze out and wash under running tap water with soap and/or dilute sodium hypochlorite solution (e.g. Milton).
- · Encourage bleeding.
- Obtain information about and blood from the sharps victim and the source person (source of body fluid). ? Hepatitis B and C or HIV +ve.

It takes up to 3 mths to seroconvert with HIV.

Known Hepatitis B carrier source person If injured person immune—no further action.

If non-vaccinated and non-immune:

- give hyperimmune Hepatitis B gammaglobulin (within 48h)
- commence course of Hepatitis B vaccination within 24 h

Known Hepatitis C carrier source person Follow-up HCV RNA tests at 4–6 wks and anti HCV AB and ALT levels at 4–6 mths.

Known HIV-positive source person Refer to consultant about relative merits of drug prophylaxis and serological monitoring.

Options: double or triple antiretroviral prophylaxis within 1–2h (check with consultant) or serological monitoring 0, 4, 6, 12, 24 and 52 wks

Unknown risk source person Take source person's blood (if consent is given) and sharps victim's blood for Hepatitis B (HBsAg and anti-HBs), Hepatitis C (HCV AB), HIV AB and baseline ALT testing. Begin Hepatitis B vaccination if not vaccinated.

Note: Informed consent for testing and disclosure of test results for involved person should be obtained.

Website: www.cdc.gov/mmwr/preview/mmwrhtml

Nightmares (dream anxiety)

<u>420</u>

Adults

- Check whether due to medication, drug withdrawal or traumatic stress disorder
- · 4 wk trial of phenytoin
- · Diazepam or clonazepam at night can be used

Children

- No active treatment is usually needed for parainsomnias (nightmares, sleep talking or sleep walking) in children
- · Usually self-limiting
- If persistent or severe: 6 wk trial phenytoin or imipramine

Nose

Table 69 Nasal disorders: typical symptoms

Disorder	Symptoms
Foreign body	Unilateral discharge, unilateral blockage
Acute sinusitis	Facial pain, toothache, nasal discharge, postnasal drip
Allergic rhinitis	Sneezing, rhinorrhoea, itch, eye irritation
Infective rhinitis	Blockage, purulent discharge, post-nasal drip
Deviated septum	Blockage, post-nasal drip
Nasal polyps	Blockage, reduced smell
Nasal tumour	Blockage, unilateral discharge, epistaxis
Adenoidal hypertrophy	Bilateral blockage, snoring, halitosis
Nasal vestibulitis	Local pain, crusting, malodour

Nasal fractures

Fractures of the nose can occur in isolation or combined with fractures of the maxilla or the zygomatic arch. Always check for a compound fracture or head injury and if present leave alone and refer.

Practice tips

- X-rays are generally unhelpful unless excluding other facial skeletal injuries.
- If a deformity is present, refer the patient within 7 d, ideally from days 3-5.
- Skin lacerations, i.e. compound fracture usually require early repair.
- The optimal time to reduce a fractured nose is ~Io d after injury. The window period before union is 2-3 wks.
- Closed reduction under local or general anaesthetic is the preferred treatment.
- Open reduction is more suitable for bilateral fractures with significant septal deviation: bilateral fractures with major dislocations or fractures of the cartilaginous pyramid.

Nasal polyps

These are round, soft, pale pedunculated outgrowths arising from the nasal or sinus mucosa. They are basically prolapsed congested oedematous mucosa, described by some as 'bags of water'. They occur in patients with all types

of rhinitis but esp. allergic rhinitis. Symptoms include nasal obstruction and loss of smell.

Treatment

- Medical 'polypectomy': use oral steroids, e.g. prednisolone 50 mg/d for 7 d plus steroid nasal spray. Continue for at least 3 mths.
- · Antibiotics for purulent nasal discharge.
- · Surgery—refer for procedure which can be complex.

Nasal vestibulitis

Includes:

- Low-grade infection & folliculitis → pain, crusts and bleeding esp. if 'picking habit'. Treat with bacitracin or mupirocin oint. for 14 d.
- Furunculosis—usu. *S. aureus*, may cause spreading cellulitis. Treat with minimal handling, hot soaks, systemic antibiotics, (e.g. dicloxacillin), but take swabs from the vestibule.
- Fissures: painful fissures develop at mucocutaneous junction. Treat with petroleum jelly (Vaseline) to keep moist, hot compresses and an antibiotic or antiseptic ointment if nec.

Offensive smell from the nose

Ensure no foreign body present.

- Mupirocin 2% nasal ointment—instil bd or tds for 5 d (esp. if S. aureus in nares) or
- · Kenacomb ointment—instil 2 or 3 times/d

Rhinophyma

This disfiguring swelling of the nose is due to hypertrophy of the nasal sebaceous glands. There is no specific association with alcohol. More common in men >45 yrs. May be associated with rosacea.

Treatment

- · Good control of rosacea may reduce the risk.
- · If surgical correction is warranted, refer to a specialist.
- · Carbon dioxide laser therapy is the treatment of choice.
- · Shave excision is another effective therapy.

Senile rhinorrhoea

This is a common distressing problem in the elderly caused by failure of the vasomotor control of the mucosa. There are few physical signs apart from the nasal drip. The treatment is to keep the nasal passages lubricated with an oily preparation such as insufflation with an oily mixture (a suitable sesame oil based preparation is Nozoil) or petroleum jelly.

Stuffy and running nose

- · Blow nose hard into disposable paper tissue or handkerchief until clear
- Nasal decongestant for 2-3 d only
- Steam inhalations with Friar's balsam or menthol preparations—use
 I tsp to 500 mL boiled water in old container

Snuffling infant

Snuffling in infants is usually caused by rhinitis due to an intercurrent viral infection. The presence of yellow or green mucus should not usually be cause for concern.

Treatment

- · Reassure the parents.
- · Paracetamol mixture or drops for significant discomfort.
- Get the parents to perform nasal toilet with a salt solution (I tsp salt dissolved in some boiled water); using a cotton bud, gently clear out nasal secretions every 2 waking h.
- Once the nose is clean, saline nose drops or spray (e.g. Narium nasal mist) can be instilled.
- Stronger decongestant preparations are not advised unless the obstruction is causing a significant feeding problem, when they can be used for up to 4–5 d.

Nutrition advice

Recommendations of the Australian Nutrition Foundation for a heart-healthy eating program are:

- eat most—vegetables, dried peas, beans and lentils, cereals, bread, fruit and nuts
- eat moderately—lean meat, eggs, fish, chicken (without skin), milk, voghurt, cheese
- · eat in small amounts—oil, margarine, reduced-fat spreads, butter, sugar

Protein

Proteins make up the greater part of plant and animal tissue and provide the amino acids essential for the growth and repair of tissue. A complete protein is one that contains all the nine indispensable amino acids, namely, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine.

Protein in animal products (meat and milk) is of high quality and that in vegetable products is lower because of a limited supply of lysine (in cereals) and methionine and cysteine (in legumes). Infants and children require 2–2.2 g protein/kg/d.

- High protein content foods—lean beef and lamb, chicken, fish, eggs, milk, cheese, soy beans.
- Medium protein content foods—bread, spaghetti, corn, potatoes (cooked), rice (cooked), cabbage, cauliflower.

Carbohydrates

Main source of dietary energy. Carbohydrates that are available in food are:

- · sugars—sucrose, lactose, maltose, glucose, fructose
- polyols—sorbitol, xylitol, maltilol, lactilol
- · starch—amylose, amylopectin
- · dextrose

As long as adequate energy and protein are provided in the diet, there is no specific requirement for dietary carbohydrate. A small amount— ${\tt Ioo}\,{\rm g}/{\rm d}$ —is nec. to prevent ketosis.

Fat

Dietary fat, which is composed mainly of fatty acids and dietary cholesterol, is the most concentrated source of food energy. Fatty acids are classified according to the number of unsaturated double bonds:

- nil—saturated (e.g. butyric and stearic acids)
- one—monounsaturated (e.g. oleic acid)
- more than one—polyunsaturated (e.g. linoleic acid, eicosapentanoic acid [EPA], docosahexanoic acid [DHA])

The n-3 and n-6 polyunsaturated fatty acids with chain lengths of 18 or more are called essential fatty acids because they are required for vital body functions and animals, inc. humans, are unable to synthesise them.

The proportions of saturated, monounsaturated and polyunsaturated fatty acids in the diet are important determinants of health and disease. The current strategy is to reduce total fat intake and reduce saturated fats and increase unsaturated fats, esp. n-3 polyunsaturated fats.

General dietary guidelines for good health—a summary

- · Keep to an ideal weight.
- · Eat a high fibre diet.
- Eat more fruits and vegetables, breads and cereals, preferably wholegrain.
- Eat fish at least twice a wk, preferably more often.
- · Choose a nutritious diet.
- Eat less saturated fat, refined sugar and salt.
- Use low-fat dairy products, milk and yoghurt.
- · Avoid fast foods and deep-fried foods.
- Do not eat animal meat every day, and then only in small portions. Note that processed meats, such as sausages, have a very high fat content.

- Use poly- or monounsaturated oils esp. olive oil and margarine for spreads.
- Use olive oil for cooking rather than polyunsaturated oils.
- · Always trim fat off meat.
- Drink more water.
- · Limit salt intake.
- Limit caffeine intake (o-3 drinks/d max.).
- Check plasma cholesterol level and, if it is elevated, aim to reduce it with diet.

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Obesity

The outstanding cause of weight gain in exogenous obesity is excessive calorie intake coupled with lack of exercise. Useful measuring instruments include:

- body mass index (BMI): 'healthy' range is between 20 and 25 (BMI = weight (kg) ÷ height (m²)).
- waist:hip circumference ratio (W/H ratio): healthy range < 0.9 (a better predictor of cardiovascular risk than BMI)
- waist circumference: risk of comorbidity \bigcirc > 94 cm; \bigcirc > 80 cm
- single skin-fold thickness (>25 mm suggests increased body fat)

Table 70 Classification of obesity

ВМІ	Grading	Suggested therapy
<18.5	underweight	diet and counselling
18.5–25	acceptable weight	
25-30	overweight	more exercise, diet, inc. less alcohol etc
30-35	Grade I : obesity	combined program:
35-40	Grade II : obesity	behaviour modification diet exercise
>40	Grade III : morbid obesity	combined program plus medical therapy

Management principles

- I Reduction in energy intake
- 2 Change in diet composition
- 3 Increased physical activity, (e.g. walking 30 min/d or 10 000 steps/d [use pedometer])
- 4 Behavioural therapy

Rules

- Need a close supportive relationship.
- Promote realistic goals—lose weight slowly.
- Follow a low-fat, high-fibre, reduced calorie intake diet.
- Allow normal foods with reduced quantity and frequency (e.g. eat ¹/₃ less than usual).
- Supportive counselling (never judgmental).
- · Provide a list of 'tips' for coping.
- · Advise keep a food, exercise and behaviour diary.
- Strict follow-up (e.g. fortnightly, then monthly) until goal weight achieved, then 3 mthly reviews.

Pharmacotherapy (adjunct therapy) Adverse effects can be problematic. Consider for those with BMI > 30.

The agents are:

- · local, acting on GIT:
 - bulking agents (e.g. methylcellulose)
 - lipase inhibitors—orlistat (Xenical) 120 mg (o) tds ac (used with a low-fat eating program)
- · centrally acting agents:
 - amphetamine derivatives (reduce hunger)
- phentermine 15-40 mg(o) /d
- diethylpropion 25 mg (o) tds or SR 75 mg/d:
 - serotonin alalogues (enhance satiety)
- sibutramine (Reductil) 10–15 mg (o) /d
- SSRIs, (e.g. sertraline 50–100 mg (o) /d)

Surgery Consider surgical intervention, (e.g. Lap Band).

Obsessive-compulsive disorder

- · Cognitive behaviour therapy
- · Refer for group therapy
- Clomipramine (Anafranil)
 - 50–75 mg (o) nocte, increasing every 2–3 d to 100–250 mg orally (o) nocte *or*
- Any SSRI antidepressant (e.g. fluoxetine 20 mg (o) /d)

Obstetric care

Basic antenatal care

Antenatal care presents preventive medicine opportunities par excellence and is the ideal time to develop an optimal therapeutic relationship with the expectant mother.

Preconceptual care

- · General nutritional or lifestyle advice
- Discourage smoking, alcohol, drugs (note: fetal alcohol syndrome is a leading cause of mental retardation)
- · Check rubella immune status
- Consider genetic issues—family and personal issues
- Folic acid—4 wks prior to conception 0.5 mg (o) /d, those at risk of neural tube defect 5 mg (o) /d; continue in first 3 mths of pregnancy

The initial visit

- · Careful history, physical examination
- · Establish date of confinement
- Investigations (Table 71)

Visits during pregnancy Average is 12 but some recommend as few as 6 or 8.

- Initial in first trimester: 8–10 wks
- Up to 28 wks: every 4–6 wks
- Up to 36 wks: every 2 wks
- 36 wks-delivery: wkly

Table 71 Recommended standard antenatal investigations

First visit

- FBF and ferritin
- · Blood grouping and rhesus typing
- Rubella antibodies
- Cervical smear (if previous > 12 mths)
- HBV and HCV serology
- Syphilis serology
- HIV serology (after counselling)
- Urine micro culture & sensitivity
 Consider:
- s vitamin D
- varicella serology
- Haemoglobin electrophoresis (if indicated)

Subsequent visits

- Ultrasound 18–20 wks (esp. if doubt about fetal maturity)
- Glucose screening 28–30 wks (diabetes exclusion test)
- FBE 36 wks
- Cervical swab (group B haemolytic Streptococcus) 36 wks
- Best fetoplacental function (32–38 wks)

For each visit record:

- · weight gain
- blood pressure
- urinalysis (protein and sugar)
- uterine size/fundal height
- fetal heart (usually audible with stethoscope at 25 wks and definitely by 28 wks)
- fetal movements (if present) patients to record date of first
- · presentation and position of fetus (third trimester)
- · presence of any oedema

The first trimester combined screening test

(to identify risk for Down Syndrome and other fetal abnormalities)

- serology tests (9-13 wks, 10 is ideal)
 - free β-HCG
 - PAPP-A
- nuchal translucency ultrasound (12-13 wks)

Management of specific issues Pregnancy sickness

- · Invariably disappears by end of first trimester
- Explanation and reassurance
- · Simple measures:
 - small frequent meals
 - fizzy soft drinks, esp. ginger drinks

- avoid stimuli such as cooking smells
- avoid oral iron
- be careful cleaning teeth

Medication (for severe cases): pyridoxine 50–100 mg bd If still ineffective add: metoclopramide 10 mg tds

Cramps

• Place pillow at foot of bed to dorsiflex feet. Exercises (158).

Varicose veins

Wear supportive pantyhose (not elastic bandages). Keep to ideal weight.

Mineral supplements in pregnancy

Iron is not routinely recommended for pregnant women who are healthy, following an optimal diet and have a normal blood test. Those at risk (e.g. with poor nutrition) will require supplementation. Increase iodine intake.

Pregnancy-induced hypotension

Due to increased peripheral circulation and venous pooling. Advise avoiding standing suddenly and hot baths. This may cause syncope. Fainting may occur with lying on back in latter half of pregnancy (supine hypotension).

Pregnancy-induced hypertension

Commonly used medications:

- Beta-blockers, e.g. labetalol, oxprenolol and atenolol (used under close supervision and after 20 wks gestation)
- Methyldopa: good for sustained BP control

Diuretics and ACE inhibitors contraindicated.

Physiological breathlessness of pregnancy

Consider with unexplained dyspnoea which is constant and aggravated by exercise, in 2nd trimester. No special treatment is needed or helpful.

Acute cystitis

- Cephalexin 250 mg (o) 6 hrly for 10–14 d or
- Amoxycillin clavulanate (250/125 mg) (o) 8 hrly

Transmissible infections in pregnancy Rubella

In utero infection causes fetal clinical disorders up to 19 wks. Screening for rubella IgG positivity. If –ve, at risk.

Diagnosis: 4-fold rise in IgG or +ve IgM (recent infection)

Vaccination: routine vaccination \rightarrow 95% protection. Do not vaccinate during pregnancy. If inadvertent vacc'n in early pregnancy—negligible risk to fetus. Offer vacc'n to IgG –ve women in puerperium.

Varicella (chickenpox)

Greatest risk to fetus is < 20 wks gestation and very late pregnancy.

Diagnosis: +ve IgG antibody test

Contacts: if –ve IgG give varicella zoster immunoglobulin (VZ-Ig) within $_{3-4}\,\mathrm{d.}$

Maternal infection (early pregnancy): give course of antiviral, (e.g. valaciclovir) esp. <20 wks.

Maternal infection (late pregnancy): greatest risk is 5 days before and up to 4 wks after delivery—30% fetal mortality if infected.

Consider VZ-Ig for baby if <7d before and up to 4wks after delivery. Isolate mother from baby until not contagious.

Parvovirus B-19

Non-immune are at risk. Miscarriage rate is 4% < 20 wks.

Fetal parvovirus syndrome is anaemia—hydrops fetalis and possible death.

If infection during pregnancy (IgM +ve) refer for fetal monitoring by US. If hydrops consider early blood transfusion.

Cytomegalovirus

CMV is the most common viral cause of birth defects. 1% infection usu. asymptomatic. The fetal effects are variable—mild to severe (up to 30% have mental retardation). There is no therapy or preventive strategy. Consider referral and amniocentesis if fetal infection likely or suspected.

Hepatitis B

For infected mother vertical transmission during labour is the concern, esp. if HBeAg +ve. Infected infants have a 90% risk of becoming carriers with liver disease.

At delivery or ASAP give newborn babies of carrier mothers both Hepatitis B vaccine and immunoglobulin (HBV Ig). This gives ~90–95% efficacy.

Hepatitis C

Screen those at risk at first antenatal visit. If +ve transmission rate to fetus is 5% and much higher if maternal infection during pregnancy. Breastfeeding transmission is unclear. Screen infants at risk at 12 mths and treat +ve cases under specialist care.

HIV

The infection rate from an HIV mother is \sim 15–25%. If screening detects HIV and both mother and newborn infant require antiretroviral therapy, refer

early. Risk of transmission is reduced by treatment for mother antenatally and during labour and to the neonate for first 6 mths, by elective CS and avoiding breastfeeding.

Genital herpes

Both r° genital herpes (in particular) and recurrent herpes pose a major risk to the neonate. The risk from r° infection is greatest > 28 wks. Main problem is vertical transmission during labour.

Management

- · Perform cervical swabs for HSV infection.
- Consider prophylactice antiviral, e.g. aciclovir, for mother from 38 wks until delivery—to try to prevent recurrent herpes in late pregnancy.
- · Arrange caesarean section if:
 - active lesions present (cervix/vulva) at time of delivery or within preceding 4 d
 - membranes ruptured >4 h
- If vaginal delivery, give aciclovir to the neonate (check with neonatal paediatrician).

Genital warts

Although high community carriage rate of HPV, risk of transmission to fetus is very low and no intervention required.

Syphilis

If infected, usu. transmitted in 2nd T— may cause fetal death or congenital infection with mental handicap. Treat mother with IM benzathine penicillin.

Chlamydia/gonorrhoea

The concern is neonatal conjunctivitis and chlamydia neonatal pneumonia (usu. 2–3 mths). PCR testing of maternal urine as appropriate and eye swabs from the neonate are advisable with appropriate treatment as necessary.

Postnatal care

After pains

These are lower abdominal cramps in 1st 2wks esp. with breastfeeding. Suspect endometritis if offensive lochia, fever and poor involution of uterus. If not, give paracetamol 1g 4 hrly prn.

Oral contraception

Delay to after 21 d.

- The mini pill (progestogen only)
 - norethisterone 350 mcg/d or

- levonorgestrel 30 mcg/d taken every night
- Transfer to combined OC when breastfeeding completed.
 (IUCD: if used, fit ≥ 6 wks)

Insufficient milk supply

Due mainly to lactation mismanagement such as poorly timed feeds, infrequent feeds and poor attachment. The milk ejection reflex is essential to establish supply—affected by pain, stress, shyness, lack of confidence.

Important factors are positioning and attachment to breast and getting the baby to feed often (according to supply and demand).

Engorged breasts

Regular feeding and demand feeding is the best treatment.

Advice to mother

- Feed your baby on demand from day I until baby has had enough.
- Finish the first breast completely, maybe use one side per feed rather than some from each breast. Offer the second breast if the baby appears hungry.
- Soften the breasts before feeds or express with a warm washer or shower, which will help to get the milk flowing.
- · Avoid giving the baby other fluids.
- Express a little milk before putting the baby to your breast (a must if
 the baby has trouble latching on) and express a little after feeding from
 the other side if it is too uncomfortable.
- · Massage any breast lumps gently towards the nipple while feeding.
- Apply cold packs after feeding or cool washed cabbage leaves (left in the refrigerator/between feeds).
- Use a good, comfortable brassiere. Remove your bra completely before feeding.
- Take paracetamol or ibuprofen regularly for severe discomfort.

Lactation suppression

- · Avoid nipple stimulation.
- · Refrain from expressing milk.
- · Use well-fitting brassiere.
- Use cold packs and analgesics.

Engorgement settles over 2-3 wks.

Hormonal suppression (for severe engorgement)

- Cabergoline (Dostinex) 1 mg (o) single dose day 1 post partum
- Avoid oestrogens

Nipples: cracked

- Get baby to latch onto breast fully and properly.
- Do not feed from the affected breast—rest the nipple for ${\scriptstyle \text{I}-2}$ feeds.

- · Express the milk from that breast by hand.
- · Start feeding gradually with short feeds.
- Take paracetamol I g just before feeding to relieve the pain.
- · Avoid drying agents such as spirits, creams and ointments.

Nipples: sore

- · Use a relaxed feeding technique.
- Try to use the 'chest to chest, chin on breast' feeding position.
- Start feeding from the less painful side first if one nipple is very sore.
- Express some milk first to soften and 'lubricate' the nipple.
- Never pull the baby off the nipple: gently break the suction with your finger.
- Apply covered ice to the nipple to relieve pain.
- · Keep the nipples dry (exposure to air or to hair dryer).
- Do not wear a bra at night.
- If wearing a bra by day, try Cannon breast shields.

Postnatal depressive disorders

1. Postnatal blues

- Occurs in 80% of women
- Days 3-10 (lasts 4-14 d)
- Feeling flat or depressed
- Emotional—tearfulness
- · Mood swings, mainly flat

Treatment

- Support and reassurance
- Help from relatives and friends

2. Postnatal adjustment disorder

- · Occurs in first 6 mths
- · Similar symptoms to 'blues'
- Anxiety with handling baby
- Psychosomatic complaints
- · Fearful of criticism

Treatment

- Support and reassurance
- Cognitive therapy
- · Parentcraft support
- · Settles with time

3. Postnatal depression

- Occurs in 10-30% of women
- In first 6–12 mths (usually first 6)

- · Anxiety and agitation common
- · Marked mood swings
- · Poor memory and concentration
- · Typical depressive features

Treatment

- · Support, reassurance, counselling
- Group psychotherapy
- Couple therapy
- · Postnatal depression support group
- · Hospitalisation may be nec.
- Medication (e.g. SSRIs [sertraline, paroxetine are agents of choice], amitriptyline, dothiepin)

Note: Beware of **puerperal psychosis** with onset usually within first 4 wks. Symptoms include irrational behaviour, agitation, delusions, hallucinations, mania and suicidal ideations. Requires urgent inpatient psychiatric care. Check thyroid function.

Postpartum hypothyroidism

Postpartum hypothyroidism (postpartum thyroiditis) may be misdiagnosed as postpartum depression and should always be considered in the tired apparently depressed woman in the first 6 mths after delivery.

Hair loss

Hair shedding (telogen effluvium) is common 4–6 mths post delivery. Large clumps of hair with white bulbs come out easily with combing and shampooing. Reassure that it reverts to normal in 3–6 mths. See also \square 269.

Oily hair

- · Shampoo daily with a 'shampoo for oily hair'.
- Massage the scalp during the shampoo process.
- · Leave the shampoo on for at least 5 mins.
- · Avoid hair conditioners.
- · Avoid overbrushing.
- · Attend to lifestyle factors: relaxation and balanced diet are important.

Opioid (heroin) overdosage

A known overdose patient should be treated initially with a double dose of naloxone:

 naloxone o.8 mg IM or SC (repeat as nec.) or o.2-o.4 mg IV +o.4 mg IM

Orf

Orf is due to a pox virus and presents as a single papule or group of papules on the hands of sheep-handlers after handling lambs with contagious pustular dermatitis.

- Spontaneously remits in 3-4 wks.
- For rapid resolution inject triamcinolone or other LA steroid, diluted 50:50 in N saline.

Osteoporosis

Refers to the increased bone fragility that accompanies ageing and many illnesses. It literally means porous bone and is actually reduced bone mass per unit volume. Densitometry can predict an increased risk of osteoporosis. Osteopenia is low bone density. DEXA, which is the current gold standard, assesses bone mass density (BMD). The BMD 'T score' is the number of SDs away from the mean BMD of a 30-year-old adult while the 'Z score' is the number of SDs away from the age- and sex-matched BMD.

Table 72 Interpretation of T scores

T score	Interpretation
≥-1.0	Normal
−1 to −2.5	Osteopenia
≤-2.5	Osteoporosis
< -2.5 with fracture	Severe osteoporosis

Treatment The following medication may be valuable in preventing further bone loss, possibly reversing the osteoporosis process and preventing further fractures.

- HRT (not currently recommended for long-term use) or
- bisphosphonates (decrease bone absorption)
 - alendronate 10 mg (o) daily or 70 mg (o) once weekly (take care with potential side-effect of oesophagitis)
 - etidronate 400 mg (o) daily for 14 d, then 76 d of calcium (e.g. 1.25 g CaCO $_{\mbox{\tiny 3}})$
 - risedronate 5 mg (o) daily or 35 mg (o) once weekly
 - zoledronic acid, single annual IV injection or
- raloxifene—a selective oestrogen receptor modulator 60 mg (o) daily or
- strontium ranelate 2 g (o) as powder in water, daily or
- teriparatide (synthetic parathyroid hormone) 2 mg SC daily

Anabolic agents such as nandrolone deconate may reduce further loss but the side-effects are problematic.

Recommendations for prevention

- Adequate dietary intake of calcium:
 - 1000 mg/d—premenopause
 - 1300 mg/d—postmenopausal

Note: 500 mL calcium-enriched milk contains 1000 mg calcium.

- Exercise (e.g. brisk walk for 30 mins 4 times/wk).
- Lifestyle factors: stop smoking and limit alcohol and caffeine intake.
- Exposure to sunlight: face, arms and hands, (e.g. 5–15 mins/d in warm-hot climate; 25–50 mins/d in winter in temperate climate [check regional recommendations])
- Vitamin D supplementation based on s Vitamin D (keep ≥75 mmol/L)
- Adequate nutrition: keep BMI > 19
- · Attention to falls prevention inc. avoiding sedatives

Otitis externa

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Otitis media

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Paget disease (osteitis deformans)

Features

- 95% asymptomatic (M:F ratio = 2:1)
- Symptoms may include joint pain and stiffness (e.g. hips, knees); bone pain (usually spine); deformity; headache; deafness
- · Bone pain is typically deep and aching: may be worse at night
- Signs may include deformity, enlarged skull—'hats don't fit any more', bowing of tibia, waddling gait
- Bones most commonly affected (in order) pelvis, femur, skull, tibia, vertebrae

Diagnosis

- Raised serum alkaline phosphatase (often very high >1000 U/L). Note: Calcium and phosphate normal.
- Plain X-ray: dense expanded bone best seen in skull and pelvis. Note:
 Can mimic prostatic secondaries so every male Pagetic patient should have PR and PSA test.
- · Bone isotopic scans: useful in locating specific areas.

Treatment The two major goals are relief of pain and prevention of long-term complication (e.g. deafness, deformities).

Localised and asymptomatic disease requires no treatment.

Three groups of drugs currently available:

- the bisphosphonates (i.e. etidronate, pamidronate, alendronate, tiludronate)—first line
- the calcitonins (salmon, porcine, human)—used if bisphosphonates contraindicated (e.g. adverse effects)
- various antineoplastic agents (e.g. mithramycin)
 Bisphosphonates are first-line agents (oral agents taken on an empty stomach)—one of:
- alendronate 40 mg (o) daily for 6 mths (oesophagitis can be problematic)
- pamidronate disodium 45–60 mg IV infused over 4 hrs (usually preferred option); repeated doses may rarely be required according to disease activity
- risedronate 30 mg (o) daily for 2 mths
- tiludronate $400\,\mathrm{mg}$ (o) daily for $3\,\mathrm{mths}$
- zoledronic acid 5 mg IV, once yearly

Pain and its management

Pain is the capital symptom of humans—the great hallmark of disease—the signal par excellence to the patient and doctor that all is not well. In general terms, the origin of conscious pain can be subdivided into three broad types—nociceptive, neurogenic or psychogenic.

- I Nociceptive pain is pain arising from stimulation of superficial or deep tissue pain receptors (nociceptors) from tissue injury or inflammation. It requires an intact nervous system. Nociception is stimulation of peripheral nociceptors (i.e. nerve endings sensitive to a noxious stimulus).
- 2 Neurogenic pain is pain caused or initiated by a primary lesion or dysfunction (i.e. damage) in the peripheral or central nervous system. It can be subdivided into central pain, when the primary lesion is in the central nervous system, or peripheral pain. Neuropathic pain is a form of neurogenic pain in which there is actual nerve cell or axonal damage due to inflammation, trauma or degenerative disease. Examples: post-herpetic neuralgia, peripheral neuropathy, trigeminal neuralgia.
- 3 Psychogenic pain is pain arising in the absence of any discernible injury and where the predominant aetiology is psychological or psychiatric.

Analgesics in common use

- · Paracetamol: oral use
- · Aspirin: oral
- · Other NSAIDs:
 - non-selective inhibitors of COX-1 and COX-2 (e.g. ibuprofen, naproxen, indomethacin, ketorolac—oral + IM use)
 - specific inhibitors of COX-2 (e.g. celecoxib, etoricoxib)
- Opioid analgesics:
 - buprenorphine: sublingual tabs, IM, IV use
 - codeine: oral
 - dextropropoxyphene: oral
 - fentanyl: transdermal patches, nasal spray, IM, SC, IV use
 - hydromorphone: oral, IM, SC, IV use
 - methadone: oral
 - morphine: oral, IM, SC, IV use
 - oxycodone: oral, suppositories
 - pentazocine: oral, IM, SC use
 - pethidine: IM, SC, IV use
 - tramadol: oral, IM, SC injection
- · Combined analgesics
- Methoxyflurane: an inhalational analgesic (with the Penthrox Inhaler) given in emergency situations such as the roadside. Relief after 8–10 breaths for ~10 mins.

Adjuvants

- · Antiepileptics: carbamazepine, gabapentin, sodium valproate, pregabalin
- · Benzodiazepines: as skeletal muscle relaxants
- Baclofen
- · Clonidine
- · Ketamine: IM or IV use
- · Tricyclic antidepressants

Neuropathic pain

Clinical features

- · Burning, shooting, pulsating or stabbing
- · Pain in absence of ongoing tissue damage
- · Pain in an area of sensory loss
- · Allodynia—pain on light touch
- · ± Hyperalgesia
- ± Dysaesthesia (e.g. 'ants crawling on skin')
- Often refractory to simple analgesics and NSAIDs
- · Poor response to opioids

Treatment

- · First line: aspirin, paracetamol or NSAIDs
- · Adjuvants:
 - amitriptyline and/or
 - carbamazepine or
 - gabapentin or
 - sodium valproate or
 - pregabalin

Palliative care

The fundamental principles of palliative care are:

- · optimal quality of care
- good communication, inc. information giving
- management planning inc. advanced planning
- symptom control
- emotional, social and spiritual support
- medical counselling and education
- · patient involvement in decision making
- · support for carers
- · support for staff

Common symptoms

- Boredom
- · Loneliness/isolation
- Fear

- · Pain:
 - physical
 - emotional
 - spiritual
 - social
- · Anorexia
- · Nausea and vomiting
- Constipation

Pain control

Step I: Mild pain Start with basic non-opioid analgesics:

- aspirin 600–900 mg (o) 4 hrly (preferred) or
- paracetamol 1g (o) 4 hrly

Step 2: Moderate pain Use low-dose or weak opioids or in combination with non-opioid analgesics (consider NSAIDs) and *add*:

- morphine 5–10 mg (o) 4 hrly (dose acc. to age); next dose should be
 ↑ 30–50% up to 15–20 mg or
- oxycodone up to 10 mg (o) 4 hrly or CR 10 mg 12 hrly or
- 30 mg, rectally, 8 hrly

Step 3: Severe pain Maintain non-opioid analgesics.

Larger doses of opioids should be used and morphine is the drug of choice:

- morphine 10–15 mg (o) 4 hrly, ↑ 30 mg if nec. or
- morphine CR/SR tabs or capsules (o) 12 hrly or once daily Note:
- The proper dosage is that which is sufficient to alleviate pain.
- Give usual morphine 10 mg with first dose of morphine SR and then as nec. for 'rescue dosing'.

Guidelines for morphine Ensure that pain is likely to be opioid sensitive.

- If analgesia is inadequate, the next dose should be increased by 50% until pain control is achieved.
- Give it regularly, usually 4 hrly, before the return of the pain.
- · Give it orally if possible (avoid IM morphine).
- Many patients find a mixture easier to swallow than tablets (e.g. 10 mg/10 mL solution).
- Give laxatives prophylactically (see below).
- Order antiemetics (e.g. haloperidol prn) at first.
- Reassure the patient and family about the safety and efficacy of morphine (opiophobia is often a problem).
- · If parenteral morphine needed, give subcutaneously.

Opioid rotation is useful since different opioids have differences in opioid receptor binding. Morphine can alternate with oxycodone, hydromorphone, methadone, fentanyl and others.

Fentanyl transdermal patches or lozenges are an alternative to parenteral morphine.

Symptom control

Anorexia

- metoclopramide 10 mg tds or
- · corticosteroids (e.g. dexamethasone 28 mg tds)
- · high-energy drink supplements

Constipation If opioids need to be maintained, the laxatives need to be peristaltic stimulants, not bulk-forming agents. Aim for firm faeces with bowels open about every 3rd day, e.g. senna (Senokot) 2 daily or bd *or* bisacodyl (Durolax) 5–10 mg bd. Rectal suppositories, microenemas or enemas may be required (e.g. Microlax).

Death rattles Hyoscine hydrobromide 0.4 mg SC, 4 hrly or 0.8–I.6 mg/d by SC infusion can be used to dry secretions and stop the 'death rattle'.

Dyspnoea Consider cause:

- · tap a pleural effusion
- · corticosteroids for lung metastases
- · morphine if intractable + haloperidol
- oxygen

Nausea and vomiting If due to morphine:

- haloperidol 1.5-5 mg/d—can be reduced after 10 d or
- prochlor perazine (Stemetil) $5-10\,\mathrm{mg}$ (o) qid or $25\,\mathrm{mg}$ rectally bd

Cerebral metastases Common symptoms are headache and nausea. Consider corticosteroid therapy (e.g. dexamethasone 4–16 mg/d). Analgesics and antiemetics such as haloperidol are effective.

Hiccoughs Try a starting dose of:

- chlorpromazine 25 mg (o) tds or 25 mg IM as bolus or
- haloperidol 2.5 mg bd

Terminal distress/restlessness

- Exclude reversible causes (e.g. drugs, fear)
- Clonazepam 0.25–0.5 mg (o) 12 hrly (tabs or SL drops) or
- · Midazolam by SC injection or infusion

Palpitations

Palpitations are defined as an unpleasant awareness of beating of the heart, inc. skipped heartbeat, irregular heartbeat, rapid or slow heartbeat. The symptoms are suggestive of cardiac arrhythmia but may have a non-cardiac

cause. The commonest presenting cause is the symptomatic premature ventricular beat (ventricular ectopic).

Management strategies

- · Treat the underlying cause.
- · Give appropriate reassurance.
- · Provide clear patient education.
- · Explain about the problems of fatigue, stress and emotion.
- Advise moderation in consumption of tea, coffee, caffeine-containing soft drinks and alcohol.
- · Advise about cessation of smoking and other drugs.
- Avoid drugs for atrial and ventricular premature beats and sinus tachycardia but give a β-blocker (atenolol or metoprolol) if patient disturbed by symptoms.
- · Most arrhythmias require referral.

Table 73 Palpitations: diagnostic strategy model (modified)

Q. Probability diagnosis

A. Anxiety

Premature beats (ectopics)
Sinus tachycardia
Drugs (e.g. stimulants)

Q. Serious disorders not to be missed

A. Myocardial infarction/angina Arrhythmias

- ventricular tachycardia
- bradycardia
- sick sinus syndrome
- · torsade de pointes

WPW syndrome

Electrolyte disturbances:

- hypokalaemia
- hypomagnesaemia

Thyrotoxicosis

Q. Pitfalls (often missed)

A. Fever/infection

Pregnancy Menopause Drugs

- social (e.g. caffeine, cocaine, amphetamines, alcohol, nicotine)
- prescribed

 (e.g. sympathomimetics)

 Mitral valve prolapse
 Hypoglycaemia

Management of PSVT

- I Attempt vagal stimulation:
 - · carotid sinus massage or
 - Valsalva manoeuvre or
 - self-induced vomiting
- 2 If above fails:
 - adenosine IV 6 mg first over 5–10 secs, then 12 mg after 2 min, then 18 mg in 2 min (if preceding doses unsuccessful)
 - · verapamil IV is sec-line treatment

Seek specialist advice to prevent paroxysms.

Table 74 Summary of treatment guidelines of arrhythmias

Arrhythmia	First line	Sec line
Sinus tachycardia	Treat cause Reduce caffeine intake	If no cause: metoprolol <i>or</i> atenolol <i>or</i> verapamil
Bradycardias		
Sick sinus syndrome	Permanent pacing if sy	mptomatic
AV block first degree second degree:	No treatment	
Mobitz I:	No treatment	
Mobitz II: third degree:	Consider pacing	
acute (e.g. MI)chronic	Temporary pacing Permanent pacing	
Atrial tachyarrhythmias		
PSVT	Valsalva	Adenosine IV or
	Carotid sinus massage	Verapamil IV
Atrial fibrillation*	Digoxin (to	Add beta-blocker or
Atrial flutter	control rate) Rhythm control with cardioversion or drugs	verapamil (with care—to control rate)
Atrial premature beats	Treat cause Check lifestyle	Metoprolol <i>or</i> atenolol <i>or</i> verapamil
Ventricular		
tachyarrhythmias**		
Ventricular	Treat cause	
premature beats	Check lifestyle	
Ventricular tachycardia		
non-sustained	Lignocaine IV	Amiodarone
sustained	Lignocaine IV if	Class III drug
	stable —if not: DC shock	Amiodarone
Ventricular	DC	IV adrenaline if fine
fibrillation	cardioversion	VF, then
		DC cardioversion

^{*} Consider anti-coagulation with warfarin or aspirin

^{**} Third-line treatment may be required, usually DC cardioversion or class III anti-arrhythmias (sotolol, flecainide or amiodarone)

Atrial fibrillation Some patients require no treatment—may be self-limiting (e.g. after heavy drinking binge). If rapid ventricular rate:

- digoxin 0.5-I.o mg (o) statim, then 0.25 mg (o) 4-6 hrly for 2-3 doses or
- verapamil I mg/min IV up to max. 15 mg then orally

If abnormal rhythm requiring control:

 may need DC cardioversion (best within 3 d) to achieve sinus rhythm (or chemical conversion with sotolol or other agents)

Other issues

- · Manage in collaboration with specialist
- · Echocardiography advised? mitral valve? cardiomyopathy
- Risk of embolisation: usually aspirin for younger patients and no risk factors—warfarin for others

Panic attack

A single panic attack is not the same as panic disorder.

- · General support, explanation and reassurance
- · Stress management
- · Rebreathe into cupped hands or a paper bag if hyperventilating
- · Initial treatment:
 - oxazepam 15-30 mg (o) or
 - alprazolam 0.25–0.5 mg (o) or
 - diazepam 5 mg (o)

Prophylaxis for recurrent attacks (panic disorder) Consider:

- alprazolam 0.25-6 mg (o) in 2-4 divided doses or
- · tricyclic antidepressants

Parkinson disease

The classic tetrad of Parkinson disease:

- tremor (pill-rolling at rest)
- rigidity
- bradykinesia (poverty of movement)
- · postural instability

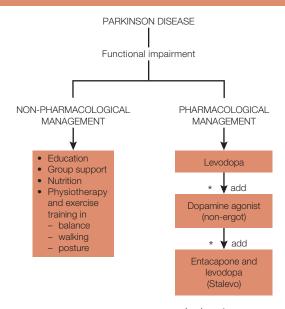
Power, reflexes and sensation usually normal.

Pharmacological management

Don't postpone—commence ASAP. (Fig. 85) Refer for shared care.

Mild Minimal disability:

 levodopa preparation (low dose) e.g. levodopa 100 mg + carbidopa 25 mg (½ tab (o) bd—increase gradually as nec. to 1 tab tds)



* Inadequate response

Figure 85 Management of early Parkinson disease (one possible pathway)

Alternative:

- start with amantadine 100 mg bd (up to 400 mg/d) prior to levodopa; may help up to 12 mths
- · selegiline—can be used as monotherapy

Moderate: Independent but disabled (e.g. writing, movements, gait):

- · levodopa preparation
- add if nec.—dopamine agonist preferably non-ergot dopamine agonist (e.g. pramipexole or rotigotine)

Severe: Disabled, dependent on others:

- · levodopa (to max. tolerated dose) + non-ergot dopamine agonist
- · add entacapone with each dose of levodopa
- · consider antidepressants

Note: Education and support of both patient and family essential.

Apomorphine (+ antiemetic) effective for severe rigidity.

If cognitive impairment with psychosis:

- ↑ levodopa slowly to max. tolerated dose, e.g. 450–600 mg/d
- · eliminate other drugs
- add quetiapine or olanzapine at night

Paronychia

Acute

Uncomplicated with localised pus (use digital anaesthetic blocks):

- 1 lateral focus of pus: incise, probe and drain, insert small wick
- 2 pus adjacent to nail: pack wisp of cotton wool between nail and apply povidone-iodine; dry and repeat (as nec.)
- 3 central focus of pus: simple elevation of nail fold or puncture the fold close to the nail to drain pus:
 - · advice on hygiene
 - · antibiotics rarely necessary
 - exclude diabetes

Chronic

- · Loss of cuticle is fundamental to diagnosis
- · Usually due to a damaged cuticle (e.g. habit tic, excessive manicuring)
- · Culture organisms
- · Exclude diabetes

Attend to causation

- Minimise contact with water, soap, detergents, lipid solvents and other irritants.
- Keep hands dry (avoid wet work if possible).
- Wear cotton-lined gloves for max. 15 mins.
- Use a mild soap and shampoo.

Treatment Topical medications to nail folds:

- 4% thymol in alcohol (SVR) qid *or* 10% sulphacetamide in alcohol For *Candida* (if cultured):
- tincture miconazole (e.g. Daktarin bd) or clotrimazole topical preparations

May need oral treatment.

Note: Vaseline and/or steroid ointment can be applied frequently when it is dry and without exudate.

Pelvic inflammatory disease (females)

There are great medical problems in the serious consequences of PID, namely tubal obstruction, infertility and ectopic pregnancy. PID can be either sexually acquired, usually with *Chlamydia trachomatis* and/or *Neisseria gonorrhoeae*, or from endogenous infections due to genital manipulation (e.g. IUCD, D&C or post abortion).

Clinical features

Acute PID

- Fever ≥ 38°C
- · Moderate-to-severe lower abdominal pain

Chronic PID

- · Ache in the lower back
- · Mild lower abdominal pain

Both acute and chronic

- · Dyspareunia
- Menstrual problems (e.g. painful, heavy or irregular periods)
- Intermenstrual bleeding
- · Abnormal, perhaps offensive, purulent vaginal discharge
- · Painful or frequent urination

Investigations

Definitive diagnosis is by laparoscopy but this is not practical in all cases of suspected PID.

- Cervical swab for Gram stain and culture (N. gonorrhoeae)
- Cervical swab and special techniques for *C. trachomatis*
- · PCR techniques for both

Treatment of PID (sexually acquired)

Note: Any IUCD or retained products of contraception should be removed at or before the start of treatment. Sex partners of women with PID should be treated with agents effective against *C. trachomatis* and *N. gonorrhoeae*.

Mild to moderate infection (treated as an outpatient)

- Azithromycin Ig (o), as I dose + (for gonorrhoea) ceftriaxone 250 mg
 IM or IV x I plus (in all patients)
- · Doxycycline 100 mg (0) 12 hrly for 14 d plus either
- Metronidazole 400 mg (o) 12 hrly with food for 14 d or tinidazole 500 mg (o) daily with food for 14 d

Where penicillinase-producing *N. gonorrhoeae* (which is often tetracycline-resistant) is suspected or proven, add:

ciprofloxacin 500 mg (o) as a single dose

Severe infection (treated in hospital) With IV cephalosporins and metronidazole plus oral doxycycline (or roxithromycin).

Non-sexually acquired PID

Use same treatment as for severe infection but doxycycline plus amoxycillin/ clavulanate 875 mg (o) bd for 14 d for mild-to-moderate infection.

Pelvic pain

Pelvic pain implies pain originating from the viscera and soft-tissue structures within the pelvic cavity and from its enclosing bony structure. It also includes referred pain and pain extending into the suprapubic area of the lower abdomen and the groin.

Table 75 Pelvic pain: diagnostic strategy model

Q. Probability diagnosis

- **A.** Gynaecological disorders for example:
 - endometriosis
 - dysmenorrhoea
 - pelvic adhesions

Musculoskeletal disorders Irritable bowel syndrome

Referred spinal pain
Q. Serious disorders not to be
missed

- A. Neoplasia/cancer:
 - lower bowel
 - cervix and uterus
 - ovary

Vascular:

- internal iliac artery—claudication Severe infection:
- osteomyelitis
- pelvic inflammatory disease
- pelvic abscess

Ectopic pregnancy

Q. Pitfalls (often missed)

A. Endometriosis

Constipation/faecal impaction

Paget disease

Stress fractures, inc. SCFE

Prostatitis/prostatodynia

Misplaced IUCD

Hernia in evolution (e.g. inguinal)

Nerve entrapment

Q. Masquerades

A. Depression

Spinal dysfunction
Urinary tract infection

O. Functional disorders

A. Psychosexual dysfunction Pelvic congestion

Chronic pelvic pain in women

Features

- Incidence 15% in 18–50 yr olds
- Endometriosis causes 33%, adhesions 24%
- Reason for up to 40% of gynaecological laparoscopies
- · Reason for 15% of hysterectomies
- · Includes the 'pelvic congestion' syndrome
- · Can be cyclical (e.g. endometriosis, mittelschmerz) or continuous

Pelvic congestion syndrome This is considered to be due to ovarian dysfunction (similar to PCOS) with venous congestion.

Features:

- · Unilateral pain, increased with standing and walking
- · Relief with lying down
- · Deep dyspareunia
- · Postcoital aching

Investigations for pelvic pain Select from:

- · endocervical swabs
- MSU ± Chlamydia PCR
- plain X-ray
- transvaginal ultrasound ± lower abdominal US
- · colour Doppler US imaging
- colonoscopy/flexible sigmoidoscopy
- · cutaneous pain mapping

Perioral dermatitis

Clinical features:

- · Acne-like dermatitis of lower face
- · Usually young women
- Around mouth and on chin, sparing adjacent perioral area (see Fig. 86)—the 'muzzle' area.
- · Frequently begins at the nasolabial folds

Treatment

- · Systemic antibiotics (first choice):
 - doxycycline or minocycline 100 mg (o) daily reducing to 50 mg/d for 8 wks. Takes 10–14 d to respond.
- · Topical agents (consider if tolerated):
 - 2-4% sulphur and 2% salicyclic acid in aqueous sorbolene cream or
 - Ketoconazole 2% cream and shampoo 10–14 d or metronidazole 0.75% gel bd

Avoid corticosteroids and all creamy preparations inc. moisturisers and make-up.



Figure 86 Perioral dermatitis: typical distribution

Peripheral neuropathy

Features of a polyneuropathy

- · Lower motor neurone disorder
- · Distal sensory loss in limbs—tingling, burning or numbness
- Symmetrical glove and stocking loss (all modalities) ± distal motor loss in limbs
- · Reduction or loss of reflexes

The many causes include metabolic (e.g. diabetes, renal failure); acute porphyria; toxins and vitamin deficiency states (e.g. alcohol, folate deficiency); various drugs (e.g. amiodarone, phenytoin); connective tissues disorders (e.g. rheumatoid arthritis, SLE); malignant disease and infections (e.g. HIV).

It is important to accurately diagnose early the acquired idiopathic (inflammatory) polyneuropathies, namely the acute (Guillain–Barre syndrome) and chronic (slower and more protracted) types. The acute type is potentially fatal with respiratory paralysis.

Guillain-Barre syndrome

Acute development of:

- weakness in limbs
- · both proximal and distal muscles affected
- facial paralysis (50%)
- · extra-ocular or bulbar paresis (rare)
- · reflexes depressed or absent
- paraesthesiae or pain in the limbs

Sensory loss is minimal or absent.

Diagnosis:

- CSF examination (elevated protein, normal cells)
- · abnormal motor nerve conduction studies

Refer for inpatient care: plasmapheresis or IV immunoglobulin used for more severe cases

Prognosis: 80% recover completely; up to 10% die; 10% residual disability; 5% relapse

Personality disorders

It is advisable for the family doctor to become familiar with the types of personality disorders as they often represent the 'heartsink' patient or the 'fat file' syndrome. Their medical/psychiatric significance:

- · maladaptive relationships with GPs, people and society
- · sexually dysfunctional lives
- risk of substance abuse and self-destructive behaviour
- prone to depression and anxiety (usually low grade)
- · susceptible to 'breakdown' under stress

Table 76 Summary of main personality disorders

Material and the second second				
Main cluster groups and subtypes	Main features of disorder			
A. Withdrawn				
Paranoid	Suspicious, oversensitive, argumentative, defensive, hyperalert, cold and humourless			
Schizoid	Shy, emotionally cold, introverted, detached, avoids close relationships			
Schizotypal	Odd and eccentric, sensitive, suspicious and superstitious, socially isolated. Falls short of criteria for schizophrenia			
B. Antisocial				
Antisocial (sociopathic)	Impulsive, insensitive, selfish, callous, superficial charm, lack of guilt, relationship problems (e.g. promiscuous)			
Histrionic (hysterical)	Self-dramatic, egocentric, immature, vain, dependent, manipulative, easily bored, emotional scenes, seductive			
Narcissistic ('prima-donna')	Morbid self-admiration, exhibitionist, insensitive, craves and demands attention, exploits others, preoccupied with power			
Borderline ('hell-raiser')	Confused self-image, impulsive, reckless, unstable relationships, damaging and reckless behaviour, full of anger and guilt, lacks self-control ± uncontrolled gambling, spending etc. Note: High incidence suicide and parasuicide;			
	drug abuse			
C. Dependent				
Avoidant (anxious)	Anxious, self-conscious, fears rejection, timid and cautious, low self-esteem, overreacts to rejection and failure			
Dependent	Passive, weak willed, lacks vigour, lacks self-reliance and confidence, overaccepting, avoids responsibility, seeks support			
Obsessional (obsessive- compulsive)	Rigid, perfectionist, pedantic, indecisive, egocentric			

(continued)

Table 76 Summary of main personality disorders (continued)

Main cluster groups and			
subtypes	Main features of disorder		
D. Other			
Passive-aggressive	Procrastinates, childishly stubborn, dawdles, sulks, argumentative, clings, deliberately inefficient and hypercritical of authority figures		
Hypochondrial	Health-conscious, disease fearing, symptom preoccupation		
Depressive (dysthymic, cyclothymic)	Pessimistic, anergic, low self-esteem, gloomy, chronic mild depression		

Management The best treatment is a supportive 'therapeutic' community and family and an understanding and supportive GP. Cooperative 'problematic' patients may respond well to psychological intervention inc. CBT and behavioural techniques. Self-esteem problems need careful support. Medication has limitations but helps any associated psychoses, anxiety or depression.

Perspiration: excessive (hyperhidrosis)

This is usually idiopathic and prolonged. See also 274.

- Use an antiperspirant deodorant or aluminium chloride hexahydrate 20% solution or spray (e.g. Driclor) (also good for palms and soles).
- · Reduce caffeine intake.
- · Avoid known aggravating factors.
- · Refer for axillary wedge resection if axillary hyperhidrosis.

Phimosis

- · This is tightness of the penile foreskin.
- It can be adherent to the glans penis for up to 5–6 yrs.
- It usually 'separates' by age of 6.
- · Discourage forceful retraction.
- Circumcise if unretractable by 7 yrs and problems (e.g. balanitis, ballooning).
- Can treat cases of mild balanitis with topical 0.05% betamethasone valerate cream tds for 4 wks (apply to tight shiny part of the foreskin).

Photoageing/wrinkles

Prevention

- · Avoid smoking.
- · Avoid exposure to the sun.
- Use an SPF 15 or more sunscreen during the day.

 Wash with a 'neutral' mild soap (e.g. Neutrogena, max. twice daily) and pat dry.

Treatment

- Topical olive oil
- Tretinoin (Retin-A) cream: apply once daily at bedtime (on dry skin): test for skin irritation by gradual exposure (e.g. 5 mins at first, wash off, then 15 mins until it can be left overnight)
- Lac-Hydrin (USA): 12% solution may be effective alternative; other lactic acid preparations may be useful
- · Alpha hydroxy acid preparation

Physical methods

- Collagen injections—for example, Zyderm I for fine lines (e.g. periorbital skin), Zyloderm II for deeper lines (e.g. glabellar—forehead—skin) and Zyplast for grooves (e.g. nasolabial)
- Botulinum toxin injections for deep lines and furrows (e.g. frown lines, crow's feet)
- Laser resurfacing for fine-to-moderately-deep lines (e.g. perioral, periorbital)

Pityriasis rosea

Management

• Explain and reassure with patient education handout.

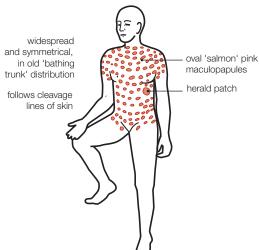


Figure 87 Pityriasis rosea: typical distribution

- Bathe and shower as usual, using a neutral soap (e.g. Neutrogena, Dove).
- · Use a soothing bath oil (e.g. QV bath oil, Hamilton bath oil).
- For itching: urea cream or calamine lotion with 1% phenol or menthol 1% in aqueous cream.
- Expose rash to sunlight (avoid sunburn) or UV therapy (if florid)
 3 times/wk.

For severe itch use a potent topical corticosteroid or oral corticosteroids.

Prognosis A mild self-limiting disorder with spontaneous remission in 2–10 wks (av. 2–5). Does not appear to be contagious.

Pityriasis versicolor (tinea versicolor)

There are two distinct presentations:

- reddish, brown, slightly scaly patches on upper trunk, which progresses to a
- 2 hypopigmented area that will not tan, esp. in suntanned skin
- May involve neck, upper arms, face and groin.
- Scales removed by scraping show characteristic short stunted hyphae with spores on microscopy, 'spaghetti and meat balls' appearance.

Treatment

- Selenium sulphide (Selsun shampoo). Wash area, leaving on for 5-Io mins, then wash off. Do this daily for 2 wks (at night), then every 2nd day for 2 wks, then monthly for I2 mths. Shampoo scalp twice wkly and/or
- econazole 1% (Pevaryl) foaming solution—apply to wet body (after shower):
 - rub in from head to toe
 - do not rinse, allow to dry
 - shower off next morning
 - apply for 3 consec. days once/wk for 3 wks or
- clotrimazole, miconazole, or econazole cream/lotion applied nocte for rod
- Ketoconazole cream or terbinafine 1% cream twice daily for 14 d in severe or resistant cases.
- Can use ketoconazole 200 mg (o) daily for 7–10 d or 400 mg (o) as single dose (check LFTs)

Plantar warts

<u>250</u>

Pneumonia

Community-acquired pneumonia (CAP) is defined as pneumonia in individuals who are not in hospital (or who have been in hospital $<48\,h$) and are not immune compromised.

Typical pneumonia

The commonest CAP is with S. pneumoniae (majority) or H. influenzae.

Clinical features

- Rapidly ill with high temperature, rigors, night sweats, dry cough, pleuritic pain
- I-2 d later may be rusty coloured sputum
- · Rapid and shallow breathing follows
- · X-ray and examination: consolidation (patchy or lobar)

The atypical pneumonias

Clinical features

- · Fever, malaise (flu-like illness)
- Headache
- · Minimal respiratory symptoms, non-productive cough
- · Signs of consolidation absent
- · Chest X-ray (diffuse infiltration) incompatible with chest signs

Causes Mycoplasma pneumoniae—the commonest:

- · adolescents and young adults
- treat with roxithromycin 300 mg (o) daily or doxycycline 100 mg bd for 10–14 d

Legionella pneumonia (Legionnaire's disease):

- · related to cooling systems in large buildings
- incubation 2-10 d

Diagnostic criteria include:

- · prodromal influenza-like illness
- a dry cough, confusion or diarrhoea
- · very high fever (may be relative bradycardia)
- lymphopenia with moderate leucocytosis
- hyponatraemia

Patients can become very prostrate with complications—treat with azithromycin IV (first line) or erythromycin (IV or O) plus (if very severe) ciprofloxacin or rifampicin.

Chlamydia pneumoniae:

• treatment similar to mycoplasma

Chlamydia psittaci (psittacosis):

• treat with doxycycline 100 mg (o) bd for 10-14 d

Coxiella burnetti (Q fever):

• treat with doxycycline 100 mg (o) for 14 d

Antibiotic treatment for CAP according to severity

Mild pneumonia (not requiring hospitalisation)

- Amoxycillin/clavulanate 875/125 mg (o) bd esp. if S. pneumoniae isolated or suspected plus
- Doxycycline 200 mg (o) loading dose then 100 mg daily esp. if atypical pneumonia suspected or
- · Roxithromycin 300 mg (o) daily

All courses for 7d.

Moderately severe pneumonia (requiring hospitalisation)

Table 77 Pneumonia: guidelines for hospitalisation

- Neonates
- · Age over 65
- Co-existing illness
- High temperature > 38°C
- · Clinical features of severe pneumonia
- · Involvement of more than one lobe
- Inability to tolerate oral therapy
- Benzylpenicillin 1.2 g IV 4–6 hrly for 7 d (drug of choice for S. pneumoniae) or
- Amoxycillin clavulanate 875 mg bd (if not so severe and oral medication tolerated) or
- Cephalothin 1g IV 4-6 hrly for 7d (in penicillin-allergic patient) plus
- Doxycycline (dose as above)

Severe pneumoniae The criteria for severity are presented in Table 78.

Table 78 Guidelines for severe pneumonia (with ↑ risk of death)

- · Altered mental state
- Rapidly deteriorating course
- Respiratory rate ≥30/min
- Pulse rate ≥125/min
- Temperature $<35^{\circ}C$ or \geq 40°C
- BP < 90/60 mmHg
- Hypoxia P_{O2}; <60 mmHg
- Leucocytes < 4 × 10⁹/L or
 > 20 × 10⁹/L

Treatment

- Erythromycin 500 mg IV slowly 6 hrly (covers Mycoplasma, Chlamydia and Legionella) plus
- Cefotaxime 1g IV 8 hrly or
- Ceftriaxone 1 g IV daily

Pneumonia in children

Features

- Tachypnoea, tachycardia, expiratory grunt, intermittent apnoea
- · Possible focal chest signs
- · Diagnosis often only made by chest X-ray

Viruses are the most common cause in infants.

Mycoplasma common in children > 5 yrs.

S. pneumoniae a cause in all age groups.

Pathogens difficult to isolate—may need blood culture.

Treatment

- · Hospitalise, minimal handling
- Careful observations, inc. pulse oximetry
- · Attend to hydration
- · Antibiotics indicated in all cases

Mild to moderate:

- birth–ı wk—IV benzylpenicillin + IV gentamycin (7 d)
- I wk-4 mths—erythromycin 10 mg/kg (o) or IV, 6 hrly, 7–14 d
- 4 mths-5 yrs
 - mild: amoxycillin (o), 7d
 - moderate: IV benzylpenicillin 7 d
- 5 yrs-15 yrs
 - mild: amoxycillin (o) + roxithromycin (o) 7 d
 - moderate to severe: benzylpenicillin IV + roxithromycin (o) 7 d

Severe (esp. S. aureus):

• flucloxacillin IV + cefotaxime IV ± roxithromycin

Polycystic ovary syndrome (PCOS)

PCOS is common—affects 5–10% of women. There are at least 12 follicles 2–9 mm in size in an enlarged ovary.

Features 4 key features:

- oligo- or amenorrhoea
- hirsutism 70%
- obesity 50%
- subfertility

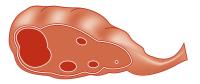
Others:

- metabolic syndrome—insulin resistance, impaired glucose tolerance, hyperlipidaemia, IHD ↑, BP ↑
- acne
- · increased miscarriage rate

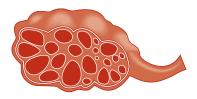
Diagnosis: transvaginal US; ↑ LH, normal FSH

Early referral advised.

The key to management is good weight control and constant exercise. Suggested treatment includes laparoscopic ovarian diathermy.



Normal ovary



Polycystic ovary

Figure 88 Illustrations of normal and polycystic ovaries

Polymyalgia rheumatica and giant cell arteritis

The basic pathology of this very important disease complex is giant cell arteritis (*synonyms*: temporal arteritis; cranial arteritis). The clinical syndromes are polymyalgia rheumatica and temporal arteritis.

Clinical features of polymyalgia rheumatica

- Pain and stiffness in proximal muscles of shoulder and pelvic girdle, cervical spine
- · Symmetrical distribution
- Typical ages 60-70 yrs (rare < 50)
- · Both sexes: more common in women
- · Early morning stiffness
- · May be systemic symptoms: weight loss, malaise, anorexia

Clinical features of temporal arteritis

- · Headache—unilateral, throbbing
- · Temporal tenderness
- · Loss of pulsation of temporal artery
- · Jaw claudication
- Biopsy of artery (5 cm) is diagnostic

Investigation

· No specific test for polymyalgia rheumatica

- ESR—extremely high, around 100; ↑ CRP
- Mild anaemia (normochromic, normocytic)

Treatment Prednisolone

- Starting dose: temporal arteritis 60 mg; polymyalgia rheumatica 15 mg
- After 2 wks, taper down gradually (max. 10% wkly) to min. effective dose (often <5 mg/d) according to the clinical response and the ESR. Aim for treatment for 2 yrs: relapses are common.

Azathioprine or methotrexate can be used as steroid sparing agents.

Premenstrual tension syndrome

Management

- · Explanation, support, reassurance & stress management
- · Advise recording a daily symptom diary for 2-3 mths
- · Attend to lifestyle factors: diet, exercise, relaxation

Medication

- Moderate dose COC with 50 mcg ethinyl oestradiol (if contraception required) but weak evidence for PMT otherwise
- Pyridoxine (vitamin B₆) 100 mg/d (high doses > 200 mg/d may → irreversible peripheral neuropathy)
- Moderate-to-severe PMT: fluoxetine 20 mg/d or sertraline 50 mg daily in morning for 10–14 d before anticipated onset of menstruation, through to the first full day of menses of each cycle

Consider other antidepressant or clomipramine 25 mg (o) nocte for 2 cycles. Alternative therapy: reasonable, sometimes conflicting evidence for use of vitamin B₆, St John's wort, *vitex angus castus*. Best evidence for SSRI agents, clomipramine, GnRH agonists, danazol.

Prickly heat (miliaria/heat rash)

- · Keep the skin dry and cool (e.g. fan, air conditioner).
- · Dress in loose-fitting cotton clothing.
- · Reduce activity.
- · Avoid frequent bathing and overuse of soap.

Lotion: salicylic acid 2%, menthol 1%, chlorhexidine 0.5% in alcohol, or Egozite (infants), Isophyl (adults).

Prevention: Ego Prickly Heat powder.

Prostate disorders

Prostatitis syndromes

Includes conditions causing pain in the prostate with lower urinary tract symptoms (LUTS) and fever, which may develop acute or chronic bacterial infection, usually caused by *E. coli*. Prostatodynia means the presence of

symptoms typical of prostatitis but without objective evidence of inflammation or infection.

Treatment

Acute prostatitis

- · Amoxycillin (or ampicillin) 2 g IV 6 hrly plus
- Gentamicin 120–160 mg IV 12 hrly to max. 5 mg/kg/d until there
 is substantial improvement, when therapy may be changed to an
 appropriate oral agent, based on the sensitivity of the pathogen(s)
 isolated, for the remainder of 14 d.

For milder infection, oral treatment with amoxycillin/potassium clavulanate, trimethoprim or norfloxacin is suitable.

Chronic bacterial prostatitis Treatment of this condition is difficult. Advise hot baths, normal sexual activity, no caffeine, good diet.

- Doxycycline 100 mg (o) daily for 1 mth or
- Trimethoprim 300 mg (o) daily for 1 mth or
- Norfloxacin 400 mg (o) 12 hrly for 1 mth or
- Ciprofloxacin 500 mg (o) 12 hrly for 1 mth

Non-bacterial prostatitis/prostatodynia The commonest cause of prostatodynia. Advice as above. Management is symptom relief (e.g. NSAIDs). Emphasise good voiding habits. Consider prazosin 0.5 mg bd or terazosin (as instructed). Consider diazepam.

Benign prostatic hyperplasia

Investigations

These include:

- · urine culture
- · kidney function
- · prostate specific antigen
- prostatic needle biopsy (with or without transrectal US) if carcinoma suspected
- voiding flow rate to confirm that the symptoms reflect obstruction and not bladder irritability:
 - measure time to pass 200 mL
 - significant obstruction if < 10 mL/sec

Management General advice:

- · avoid caffeine, esp. coffee
- reduce alcohol
- · avoid fluids before bed-time
- · urinate when you need to (do not hang on)
- · wait 30 secs after voiding to ensure your bladder is empty

Medical treatment For milder problems:

 α-adrenergic blocking agents (e.g. terazosin, tamsulosin and prazosin) for example:

- terazosin I mg (o) nocte for 4 d, then I mg mane for 3 d \rightarrow 2 mg mane for 7 d \rightarrow 5 mg mane for 7 d, then 5–10 mg/d maintenance or
- tamsulosin 0.4 mg (o) /d or
- prazosin 0.5 mg (o) nocte for 3 d, then 0.5 mg bd for 14 d (watch for postural hypotension) then increase as nec. to max. of 2 mg bd (may postpone surgery for up to 2–5 yrs)
- 5- α -reductase inhibitors, e.g. finasteride 5 mg (o) daily for at least 6-12 mths
- the herbal remedy 'saw palmetto' has proven to be as efficacious as finasteride but less so than the α -adrenergic blockers

Surgical treatment Transurethral resection is currently the gold standard of treatment.

Carcinoma of the prostate

Risks: Lifetime of microscopic cancer 40%, of clinical disease 10%, of dying from it 3%.

Risk factors: age >75, African American race, first degree relative with disease <60 y.

Digital rectal examination (DRE), which is a vital guide, may reveal a hard nodule (50% are not carcinoma).

Investigations to detect carcinoma Blood analysis:

- Prostate specific antigen (PSA)—the key marker:
 - normal level less than 4 ng/mL (but in 15-25% of cancers)
 - can be elevated without cancer
 - $\,-\,$ levels between 4 and 10 are equivocal
 - levels > 10 are suggestive of cancer
 - levels > 20 definite cancer ? incurable (metastatic spread)

Biopsy: consider biopsy (with or without transrectal ultrasound) if DRE is +ve or if PSA is elevated.

Table 79 Risk stratification: prostate cancer

	Low	Intermediate	High
PSA	<10	10-20	>20
Gleason score	<7	7	8–10
Clinical stage	<t2b< th=""><th>T2b/2c</th><th>Т3</th></t2b<>	T2b/2c	Т3

Treatment Many patients, particularly the elderly, have no symptoms and require no treatment. Treatment depends on the age of the patient and the stage of the disease.

For tumours that are potentially curable, radical prostatectomy or radiotherapy are the options. For metastatic or locally advanced disease, androgen deprivation is the cornerstone of treatment, the options being:

- bilateral orchidectomy or
- daily antiandrogenic tabs (e.g. cyproterone acetate [Androcur], flutamide [Eulexin], bicalutamide [Cosudex]) or
- monthly depot injections of luteinising hormone releasing hormone (LHRH) agonists (e.g. goserelin [Zolodex], leuprorelin acetate [Lucrin])

Pruritus (generalised)

The broad differential diagnoses are:

- skin disease
- · systemic disease
- psychological and emotional disorders

Treatment The basic principle of treatment is to determine the cause of the itch and treat it accordingly. Itch of psychogenic origin responds to appropriate therapy, such as antidepressants for depression.

Table 80 Generalised pruritus: diagnostic strategy model

Q. Probability diagnosis	Q. Seven masquerades checklist	
A. Psychological/emotional	A. Depression √	
Old dry skin	Diabetes √	
Q. Serious disorders not to be	Drugs √	
missed	Anaemia √ iron deficiency	
A. Neoplasia:	Thyroid disorder √ Hyper and hypo	
 lymphoma/Hodgkin 	Spinal	
 leukaemia: CLL 	dysfunction –	
 other carcinoma 	UTI –	
Chronic renal failure	Q. Is the patient trying to tell me	
Primary biliary cirrhosis	something?	
Q. Pitfalls (often missed)	A. Quite likely: consider anxiety,	
A. Pregnancy	parasitophobia	
Tropical infection/infestation		
Polycythaemia rubra vera		
Generalised sensitivity (e.g.		
fibreglass, bubble bath)		
Scabies & bedbugs		

If no cause is found:

- apply cooling measures (e.g. air-conditioning, cool swims)
- · avoid rough clothes
- · avoid known irritants
- · avoid overheating
- · avoid vasodilatation (e.g. alcohol, hot baths/showers)
- treat dry skin with appropriate moisturisers (e.g. propylene glycol in aqueous cream)

- · topical treatment:
 - emollients to lubricate skin
 - local soothing lotion such as calamine, inc. menthol or phenol (avoid topical antihistamines)
 - pine tar preparations (e.g. Pinetarsol)
 - crotamiton cream
- sedative antihistamines (not very effective for systemic pruritus)
- non-sedating antihistamines during day
- antidepressants or tranquillisers (if psychological cause and counselling ineffective)

Pruritus ani

Treat cause The generalised disorders causing pruritus may cause pruritus ani. However, various primary skin disorders such as psoriasis, dermatitis, contact dermatitis and lichen planus may also cause it, in addition to local anal conditions

General measures

- Stop scratching.
- Bathe carefully: avoid hot water, excessive scrubbing and soaps.
- Use bland aqueous cream, Cetaphil lotion or Neutrogena soap.
- · Keep area dry and cool.
- Keep bowels regular and wipe with cottonwool soaked in warm water.
- · Wear loose-fitting clothing and underwear.
- · Avoid local anaesthetics and antiseptics.

If still problematic and a dermatosis probably involved use:

- hydrocortisone 1% cream or
- hydrocortisone 1% cream with clioquinol 0.5 to 3% or with clotrimazole 1% (most effective)

If isolated area and resistant: infiltrate 0.5 mL, triamcinolone intradermally If desperate: fractionated X-ray therapy

Pruritus vulvae

Management depends on cause (e.g. candidiasis, anal conditions).

General measures (advice to patient)

- · Attend to hygiene and excessive sweating.
- · Keep genital area dry and wash thoroughly at least once a day.
- · Avoid overzealous washing.
- · Take showers of no more than 5 mins duration.
- Do not wear pantyhose, tight jeans or tight underwear, or use tampons.
- Do not use vaginal douches, powders or deodorants.

- · Use aqueous cream or Cetaphil lotion rather than toilet soap.
- After the toilet wipe gently with a soft, non-coloured, non-perfumed toilet paper or baby wipe (e.g. Dove).
- Apply a good moisturiser (e.g. Hydraderm or 5% peanut oil in aqueous cream).

Treatment

- For pruritus apply cool moisturising cream (kept in the refrigerator) when there is an urge to scratch
- · Apply corticosteroid ointment to the rash

Psoriasis

A chronic skin disorder of unknown aetiology which affects 2–3% of the population. It appears most often between the ages of 10 and 30 yrs, although its onset can occur any time from infancy to old age.

Principles of management

- · Provide education, reassurance and support.
- Promote general measures such as rest, and holidays preferably in the sun.
- Advise prevention, inc. avoidance of skin damage and stress if possible.
- Tailor treatment (inc. referral) according to the degree of severity and extent of the disease.

Treatment options

1 Topical therapy

General adjunctive therapy

- Tarbaths (e.g. Pinetarsol or Polytar)
- Tar shampoo (e.g. Polytar, Ionil-T)
- Sunlight (in moderation)

For chronic stable plaques on limbs or trunks

Method 1

- Apply dithranol o.1% cream to affected area at night, leave 20– 30 mins, wash off under shower and increase strength every 5d to 1% (up to max. 2h)
- · Then apply topical fluorinated corticosteroid in morning

Method 2 (combined method)

Dithranol o.1%
 Salicylic acid 3%
 Liquor picis carbonis (LTC) (tar) 10%

in white soft paraffin Leave overnight—(warn about clithranol stains—use old pyjamas and sheets). Review in 3 wks then gradually increase strength of dithranol to 0.25%, then 0.5%, then 1%. Can cut down frequency to 2–3 times/wk.

- Shower in morning and then apply topical fluorinated corticosteroid. *Note:* Facts about dithranol:
- · Stains light-coloured hair purple so don't use on the scalp.
- Start in low concentration and build up according to tolerance and response.
- Use in strengths 0.1%, 0.25%, 0.5%, 1.0% and 2.0%.
- Can use a higher strength of 0.25% to start but for short contact therapy (30 mins before shower).
- Irritates skin causing a burning sensation. Don't use it on the face, genitalia or flexures.

New method (adults only)

· Calcipotriol ointment or cream, apply bd for min. 6 wks.

Note: Tends to irritate face and flexures—wash hands after use. Is expensive. Used for localised plaques. Can combine with a potent corticosteroid.

For milder stabilised plaques

- Salicylic acid 3%, LPC 8% in sorbolene—apply bd or tds or
- Topical fluorinated corticosteroids

For resistant plaques

- Topical fluorinated corticosteroids (higher strength II–III class) with occlusive dressing
- Intralesional injection of triamcinolone mixed (50:50) with LA or normal saline (Fig. 89)

For failed topical therapy

• Refer for psoralen + UVA (PUVA) or other effective therapy.

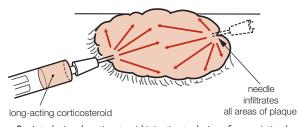


Figure 89 Intralesional corticosteroid injection technique for psoriatic plaque (requiring double injection—small plaques need only one infiltration)

General points

- Corticosteroids: the mainstay of therapy for small plaques and the control of eruption; use 1% hydrocortisone on more sensitive areas (genitals, groin, face) and perhaps stronger types elsewhere.
- Bland preparations and emollients: these can be used for dryness, scaling and itching (e.g. LPC and menthol (or salicylic acid) in sorbolene base).

2 Systemic therapy

- · Methotrexate: can have dramatic results in severe cases.
- Cyclosporin (hospital use only).
- Corticosteroids (for erythrodermic psoriasis only) oral use may destabilise psoriasis on withdrawal.
- Biological agents—for example, anti-TNFα agents (e.g. inflixamab) (specialist supervision) are very effective.

3 Physical therapy

- Phototherapy (narrowband or broadband UVB ultraviolet light).
- UVB plus coal tar (Goeckerman regimen): reserved for severe psoriasis.
- Photochemotherapy (PUVA)—reserved for non-responders to UVB treatment or other therapies (restricted use).
- Intralesional corticosteroids—an excellent and effective treatment for isolated small or moderate-sized plaques that can be readily given by the family doctor.

Method of injection

Mix equal parts of triamcinolone acetonide 10 mg/mL (or other steroid) and plain LA or normal saline and, using a 25 g or 23 g needle, infiltrate the psoriatic plaque intradermally to cover virtually all of the plaque.

Psoriasis in children

Tars are preferred to corticosteroids.

Guttate or small plaque psoriasis

- 4% LPC and 4% salicyclic acid in cream base, bd.
- Can use half-strength preparations on face and in flexures (if not tolerated use 1% hydrocortisone cream).

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Rectal bleeding

Patients present with any degree of bleeding from a smear on the toilet tissue to severe haemorrhage. Various causes are presented in Fig. 90.

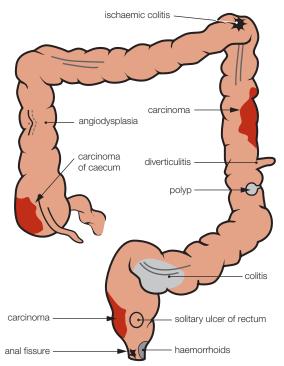


Figure 90 Various causes of rectal bleeding

Local causes of bleeding include excoriated skin, anal fissure, a burst perianal haematoma and anal carcinoma. A characteristic pattern of bright bleeding is found with haemorrhoids. It is usually small, non-prolapsing haemorrhoids that bleed.

Black tarry (melaena) stool indicates bleeding from the upper gastrointestinal tract and is rare distal to the lower ileum. Frequent passage of blood and mucus indicates a rectal tumour or proctitis, whereas more proximal tumours or extensive colitis present different patterns.

Substantial haemorrhage, which is rare, can be caused by diverticular disease, angiodysplasia or more proximal lesions, such as Meckel's diverticulum and even duodenal ulcers. Angiodysplasias are identified by technetium-labelled red cell scan.

The examination includes a general assessment, anal inspection, digital rectal examination and proctosigmoidoscopy. Even if there is an anal lesion, proximal bleeding must be excluded in all cases by sigmoidoscopy and by colonoscopy if there are any bowel symptoms or no obvious anal cause or a doubt about a lesion causing the symptoms.

Refugee health

Common presenting problems Psychological and behavioural disorders, anaemia esp. iron deficiency, oro-dental disease, tropical diseases (e.g. helminths, malaria, schistosomiasis), helicobacter plyori infection, vitamin deficiencies esp. Vitamin D, disorder of special senses—skin, ears, eyes, chronic disease.

Important diseases that 'must not be missed' include malaria, tuberculosis, schistosomiasis, HIV, typhoid fever, Hepatitis B and C, haemoglobinopathies e.g. sickle cell, G-6-DP deficiency, meningoencephalitis and severe pyschological illness such as psychosis, major depression esp. suicide risk.

Key recommendations (ASID) All refugee should be offered a comprehensive health assessment, ideally within 1 mth of arrival. This should include screening for and treatment of TB, malaria, blood borne viral infections—for example, dengue, Hepatitis B and C, schistosomiasis, helminth infections esp. strongyloides, hookworm.

Refugees should have met pre-departure screening criteria (for a permanent visa): this includes CXR (if \geq 11 yrs), HIV (if \geq 15 yrs), Hepatitis B, syphilis \geq 15 yrs, malaria (rapid antigen test), faeces for intestinal helminths.

Restless legs (Ekbom's syndrome)

Exclude diabetes, uraemia, hypothyroidism, anaemia, various drugs. Mainly a functional disorder affecting the elderly.

Diet: eliminate caffeine and follow a healthy diet.

Exercises: gentle stretching of legs, particularly of hamstrings and calf muscles, for at least 5 mins before retiring (Fig. 91)

Medication

ist choice: paracetamol 1000 mg (o) nocte or clonazepam 1 mg, 1 h before retiring



Figure 91 Stretching exercise for restless legs

2nd choice: diazepam 5 mg ± paracetamol May help: codeine, levodopa, baclofen, propranolol Generally unhelpful: carbamazepine, quinine, antipsychotics and antidepressants

Reye's syndrome and aspirin

- A rare complication of influenza, chickenpox and other viral diseases (e.g. Coxsackie virus)
- Suspected causal relationship between aspirin for a febrile illness in children
- Rapid development of:
 - encephalopathy seizures
 - hepatic failurehypoglycaemiacoma
- 30% fatality rate and significant morbidity
- Treatment is supportive and directed at cerebral oedema

Recommendation: Avoid aspirin for fever in young children—use paracetamol.

Rhinitis

Acute URTI rhinitis

Viral aetiology, esp. common cold.

Treatment

- · Increased fluids
- Saline insufflation or steam inhalation (\$\mathbb{D}\$ 358)
- Simple analgesics for pain (uncommon)
- If swollen and inflamed: corticosteroid spray
- If superinfected: mupirocin 2% nasal ointment Usually no indication for oral antibiotics.

Allergic rhinitis Hay fever, 271

Rhinitis medicamentosa

Be wary of this reactive vasodilatation due to prolonged use (> 2–4 d) of OTC decongestant nasal drops or sprays.

Vasomotor rhinitis

Usually due to chemical or environmental irritants (e.g. smoke and noxious fumes, sprays, cosmetics). Aggravated by emotional upsets, chilly damp weather, air conditioning, etc.

Treatment

- · Patient education
- · Trigger avoidance (if possible)
- · Inhaled corticosteroids
- Anticholinergics (e.g. ipratropium bromide nasal spray)
- · Nasal surgery if nec. (e.g. electrocautery, cryosurgery)

Ringworm

Tinea corporis, 🗅 443

Rosacea



Figure 92 Rosacea: typical facial distribution

Management

- · Apply cool packs if severe.
- Avoid factors that cause facial flushings (e.g. excessive sun exposure, wind, heat, alcohol, spicy foods, hot drinks—tea and coffee).
- Sun protection

Systemic antibiotics (first choice)

- · Minomycin or doxycycline:
 - 50-100 mg (o)/d for at least 8-10 wks
 Repeat for recurrences. Avoid maintenance.
- Erythromycin (second choice) or poor response for above 250 mg (o) bd
- Metronidazole (for resistant cases):
 - 200 mg bd for 10 d or
 - refer for oral isotretinoin treatment.

Topical agents

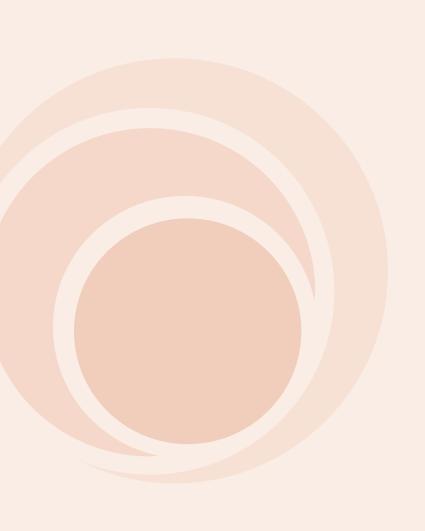
- Milder cases: 2% sulphur in aqueous cream apply lightly tds
- More severe cases: metronidazole gel or cream apply thin film bd, or azelaic acid gel bd or clindamycin 1% bd

Note: Hydrocortisone 1% cream is effective, but steroids are best avoided and strong topical steroids should not be used because of severe rebound vascular changes.

Laser therapy suitable for rosacea and rhinophyma

Ross River infection

- · A mosquito-borne alpha virus infection
- · Major symptoms—polyarthritis, maculopapular rash, myalgia
- Usually self-limiting, resolving in 2-4 wks
- · Occasional cases are severe
- Diagnosis by specific serology
- Symptomatic treatment—may need NSAIDs or steroids



| S |

Scabies

Clinical features

- · Intense itching (worse with warmth and at night)
- Erythematous papular rash
- · Usually on hands and wrists
- · Common on male genitalia
- · Also occurs on elbows, axillae, feet and ankles, nipples of females
- · Diagnosis by microscopic examination of skin scrapings

Treatment: for all types of scabies

- Permethrin 5% cream (adults and children > 6 months) or
- Benzyl benzoate 25% emulsion (dilute 50:50 with water if under 10 yrs; if < 2 yrs dilute 1:3)

Method for application

- Apply to clean, dry cool skin of whole body from jawline down (preferably at night time). Apply to face and hair if involved.
- Leave permethrin overnight (min 8 hrs) and benzyl benzoate 24 h and wash off.
- · Repeat in 1 wk.
- Complete change of clothes and bed linen: wash after treatment and hang in sun.
- Treat all family members and contacts even if free of symptoms.
- A topical antipruritic (e.g. crotamiton cream) can be used for persistent itch (usu. up to 3 wks).
- Can use sulphur 5% cream or crotamiton 10% cream daily for 3 days in children < 2 yrs.

Note: Lindane 1% lotion is an alternative, esp. for genital scabies.

Norwegian scabies (profuse infestation with crusting)

· Add ivermectin 200 mcg/kg (o) as single dose

Scrotal pain

Serious problems include testicular torsion, strangulation of an inguinoscrotal hernia, a testicular tumour and a haematocele, all of which require surgical intervention.

Torsion of the testis versus epididymo-orchitis

With torsion of the testicle there is pain of sudden onset, described as severe aching sickening pain in the groin that may be accompanied by nausea and vomiting. With epididymo-orchitis the attack usually begins with malaise

and fever. The testicle soon becomes swollen and acutely tender; however, elevation of the scrotum usually relieves pain in this condition while tending to increase it with a torsion.

Key facts about torsion of the testis

- · Is commonest cause of acute scrotal pain in childhood.
- Is the diagnosis, until proved otherwise, of a boy or young man with intense inguinal pain and vomiting.
- Must be corrected within 4–6 h to prevent gangrene of the testis.
- Ultrasound and a scan is helpful but time usually precludes this and surgical exploration is safest. Beware of delays.

Acute epididymo-orchitis

Guidelines only:

- <35 yrs: usually STI pathogens
- >35 yrs: urinary tract pathogens

Treatment

- · Bed rest
- · Elevation and support of the scrotum
- Analgesics
- Antibiotics (all doses for 10-14d)

Sexually acquired

- Amoxycillin/clavulanate 500/125 mg (o) tds plus
- Doxycycline 100 mg (o) bd

Associated with urinary infection

- Amoxycillin/clavulanate 875/125 mg (o) bd or
- Trimethoprim 300 mg (o) daily or
- Cephalexin 500 mg (o) qid or
- · Norfloxacin 400 mg (o) bd

Seborrhoeic dermatitis

Common in hair-bearing areas of the body, esp. the scalp and eyebrows. It can also affect the face, neck, axillae and groins, eyelids (blepharitis), external auditory meatus and nasolabial folds. The pre-sternal area is often involved.

Principles of treatment

- Topical sulphur, salicylic acid and tar preparations are first-line treatment: they kill the yeast responsible.
- Ketoconazole is most effective as topical (preferred) or oral treatment.
- Topical corticosteroids are useful for inflammation and pruritus and best used in combination. Avoid corticosteroids if possible.

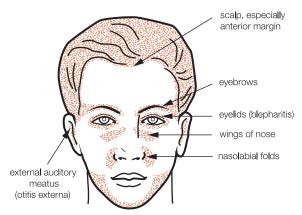


Figure 93 Seborrhoeic dermatitis: facial distribution in adults

Medication: children

Scalp:

- 1% sulphur and 1% salicylic acid in sorbolene cream or
- egozite cradle cap lotion (6% salicyclic acid)
- apply overnight to scalp, shampoo off next day with a mild shampoo
- use 3 times/wk

Face, flexures and trunk:

- · 2% sulphur and salicylic acid in aqueous or sorbolene cream
- hydrocortisone 1% (for irritation on face and flexures)
- betamethasone 0.02–0.05% (if severe irritation on trunk)

Napkin area:

 mix equal parts 1% hydrocortisone with nystatin or ketoconazole 2% or clotrimazole 1% cream

Medication: adults

Scalp:

- ketoconazole shampoo (immediately after using medicated shampoo) twice wkly
- · dexamethasone gel to scalp (if very itchy)

Face and body:

- · wash regularly with bland soap.
- salicylic acid 2% + sulphur 2% (± tar) in aqueous cream or
- · ketoconazole 2% cream, apply once daily for 4 wks
- hydrocortisone 1% bd (if inflamed and pruritic)

Septicaemia (sepsis)

The multiplication of bacteria or fungi in the blood, usually causing a systemic inflammatory response syndrome (SIRS). SIRS is defined as 2 or more of (in adults):

- temperature >38°C or <36°C
- · respiratory rate >20/min
- · heart rate >90/min
- WCC >12 \times 109/L or <4 \times 109/L

Septic shock is acute circulatory failure—hypotension and peripheral shut down—cool extremities, mottled skin, cyanosis. Patients with septicaemia require urgent referral.

Sexually transmitted infections Syphilis

Usually presents either as a primary lesion or through chance finding on +ve serology testing (latent syphilis).

It is important to be alert to the various manifestations of secondary syphilis.

Management The management of syphilis has become quite complex and referral of the patient to a specialist facility for diagnosis, treatment and follow-up is recommended.

Recommended anti-microbial therapy Early syphilis (primary, secondary or latent) of not more than I yr duration:

- benzathine penicillin 1.8 g IM as a single dose or
- procaine penicillin 1 g IM daily for 10 d

For patients hypersensitive to penicillin:

- doxycycline 100 mg (o) 12 hrly for 14 d *or*
- erythromycin 500 mg (o) 6 hrly for 14 d

Late syphilis: more than 1 yr or indeterminate duration:

· benzathine penicillin 1.8 g IM once wkly for 3 doses

Urethritis, 🗅 457

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Table 81 Sexually transmitted infections: causative organisms and treatment

CT.	Causative	
STI	organism/s	Treatment
Bacterial		
Gonorrhoea	N. gonorrhoeae	ceftriaxone IM +
		doxycycline (o) or
		azithromycin (o)
Chlamydia	C. trachomatis	azithromycin (o) or
urethritis		doxycycline (o)
Cervicitis and PID	N. gonorrhoeae	Mild: doxycycline +
	C. trachomatis	metronidazole <i>or</i> tinidazole
	Mixed 'vaginal' flora	(add azithromycin if
		N. gonorrhoeae)
		Severe: add cephalosporins
		(IV use in hospital)
Syphilis	Treponema pallidum	benzathine penicillin:
		best to refer
Bacterial vaginosis	Gardnerella vaginalis	metronidazole <i>or</i> clindamycin
	other anaerobes	2% cream
Granuloma	Calymmatobacterium	azithromycin
inguinale	granulomatis	
(donovanosis)		
Chancroid	Haemophilus ducreyi	azithromycin: best to refer
Lympho-	C. trachomatis	doxycycline <i>or</i> azithromycin:
granuloma		best to refer
venerum		
Viral		
AIDS	HIV-1, HIV-2	triple antiviral therapy
Genital herpes	herpes simplex virus	aciclovir <i>or</i> similar drug
Genital warts	papilloma virus	podophyllotoxin paint or
		imiquimod
Hepatitis	HBV, HCV	interferon/antiviral
Molluscum	pox virus	various simple methods,
contagiosum		(e.g. deroofing with needle)
Fungal		
Vaginal thrush	Candida albicans	any antifungal preparation
Balanoposthitis	Carronal and realis	any antinangai proparation
(possible)		
Protozoal	T	Caldanda anno 1911
Vaginitis, urethritis	Trichomonas	tinidazole <i>or</i> metronidazole
Balanoposthitis	vaginalis	
Anthropods		
Genital scabies	Sarcoptes scabiei	permethrin 5% cream
Pediculosis pubis	Phthirus pubis	permethrin 1% lotion

Shingles

Herpes zoster, 🗅 292

Shoulder pain

Table 82 Shoulder pain: diagnostic strategy model (excluding trauma)

Q. Probability diagnosis

A. Cervical spine dysfunction
 Supraspinatus tendonopathy/other
 rotator cuff tendonopathy
 Adhesive capsulitis (glenohumeral
 joint)

Q. Serious disorders not to be missed

A. Cardiovascular:

- angina
- myocardial infarction

Neoplasia:

- Pancoast's tumour
- · primary or secondary in humerus

Severe infections:

- · septic arthritis (children)
- osteomyelitis
 Rheumatoid arthritis

Q. Pitfalls (often missed)

A. Polymyalgia rheumatica Cervical dysfunction Osteoarthritis of

> acromioclavicular joint Subacromial bursitis Infra-abdominal pathology

(e.g. perforated viscus, bleeding)

Tendonopathy syndromes, subacromial bursitis and adhesive capsulitis

Guidelines Most of these disorders become chronic and persist for at least 12 mths.

- The tendonitis syndromes (tendonopathy) usually have unrestricted active movements but resisted movements (e.g. abduction for supraspinatus tendonopathy) are painful.
 Treatment: rest during acute phase, analgesics, peritendon injection (I mL corticosteroid with 2–5 mL 1% lignocaine)
 Sometimes surgical intervention to divide a thickened coracoacromial ligament ± acromioplasty may be nec.
- Subacromial bursitis presents in varying degrees from a 'frozen shoulder' to limited abduction (painful arc).
 Treatment: injection of 5 mL, LA then 1 mL corticosteroid into and around the bursa.
- Adhesive capsulitis or traumatic arthritis of the glenohumeral joint is a very painful condition with painful limitation of several active and passive movements, esp. rotation.

Treatment is with intra-articular steroids or hydrodilation of the joint. Referral to a consultant is advisable as modern treatments, inc. arthroscopy, give excellent results.

Rules of treatment (general)

- · Pain, stiffness, 'frozen'—arthroscopy to divide adhesions
- · Pain with mobility—hydrodilation or steroid injection

Sinusitis

Acute

Management

- · Look for nasal pathology, such as polyposis and dental problems
- Analgesics
- · Steam inhalations
- · Pseudoephedrine tabs

If bacterial sinusitis (high fever, purulent nasal discharge):

- · exclude dental root infection
- control predisposing factors

Guidelines for antibiotic treatment Consider in severe cases with at least three of the following:

- · facial pain
- · persistent mucopurulent nasal discharge
- · poor response to decongestants
- · tenderness over the sinuses
- tenderness on percussion of maxillary, molar and premolar teeth Antibiotics (first choice):
- amoxycillin 500 mg (o) tds for 7d or
- (if sensitive to penicillin) doxycycline 200 mg (o) statim then 100 mg daily for 7 d or
- cefaclor 375 mg (o) bd for 7 d or
- amoxycillin clavulanate 875/125 mg (o) tds for 7d (if poor response to above agents—indicates resistant H. influenzae)

If severe and persistent, surgical drainage may be necessary by atrial lavage or frontal sinus trephine.

Chronic

Sinusitis persisting longer than 2 wks, despite repeated antibiotic and decongestant therapy, is common in general practice. Postnasal drip with cough, esp. at night, is a feature. An empirical treatment that is effective is:

- steam inhalations with Friar's balsam or menthol (best is menthol co APP inhalation)
- vitamin C (sodium ascorbate) 2–4 g daily (a powder can be obtained and mixed with orange juice)

If an allergic basis (pale, swollen mucosa), intranasal corticosteroids.

Skin cancer

The three main skin cancers are the non-melanocyctic skin cancers (basal cell carcinoma—BCC; squamous cell carcinoma—SCC) and melanoma. The approximate relative incidence is BCCs 80%, SCCs 15–20%, and melanomas <5%. About 80% of skin cancer deaths are due to melanoma and the rest mainly due to SCC.

Types

- · Basal cell carcinoma (BCC)
- · Squamous cell carcinoma (SCC)
- · Bowen's disorder
- · Malignant melanoma
- · Kaposi's sarcoma
- · Secondary tumour (lung, bowel, melanoma)

Basal cell carcinoma

- Mostly on sun-exposed areas: face (mainly), neck, upper trunk, limbs (10%)
- · May ulcerate easily = 'rodent ulcer'
- · Slow-growing over years
- · Has various forms: nodular, pigmented, ulcerated, etc
- · Can spread deeply if around nose or ear

Management

- Simple elliptical excision (3 mm margin) is best
- If not excision, do biopsy before other treatment
- · Radiotherapy, photodynamic therapy and imiquimod are options

Squamous cell carcinoma

Tends to arise in premalignant areas, such as solar keratoses, burns, chronic ulcers, leucoplakia and Bowen's disorder, or it can arise de novo.

SCCs of ear, lip, oral cavity, tongue and genitalia are serious and need special management.

Management

- Early excision of tumours < 1 cm with 4 mm margin.
- Referral for specialised surgery and/or radiotherapy if large, in difficult site or lymphadenopathy.
- Surgery is the treatment of choice for most tumours, not cryotherapy, imiquimod or curettage.

Bowen's disorder (intradermal carcinoma)

This is SCC in situ of the skin

Management

- · Biopsy first for diagnosis
- Wide surgical excision if small
- Skin grafting may be required

Note: Biopsy a single patch of suspected psoriasis or dermatitis not responding to topical steroids.

Malignant melanoma

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Skin eruptions

Acute skin eruptions in children

The following skin eruptions (some of which may also occur in adults) are outlined in common childhood infectious diseases (\(\Delta\) 112):

- measles
- rubella
- · viral exanthem (fourth syndrome)
- erythema infectiosum (fifth syndrome)
- · roseola infantum (sixth syndrome)
- · Kawasaki disorder
- varicella

Secondary syphilis

The rash usually appears 6–8 wks after the primary chancre. It is relatively coarse and asymptomatic. It can involve the whole body, inc. the palms and soles.

Primary HIV infection

A common manifestation of the primary HIV infection is an erythematous, maculopapular rash. If such a rash, accompanied by an illness like glandular fever, occurs, HIV infection should be suspected and specific tests ordered.

Table 83 Important causes of acute skin eruptions

Maculopapular

- measles
- rubella
- · scarlet fever
- viral exanthem (fourth syndrome) (

 112)
- erythema infectiosum (slapped cheek syndrome or fifth syndrome) (

 113)
- roseola infantum (sixth syndrome) (
 ¹113)
- Epstein–Barr mononucleosis (primary or secondary to drugs)
- primary HIV infection
- · secondary syphilis
- pityriasis rosea (1 389)
- · guttate psoriasis
- · urticaria
- erythema multiforme (may be vesicular)
- · drug reaction

- scables
- mosquito-borne viral infections (e.g. Ross River, Barmah Forest)

Maculopapular vesicular

- · varicella
- · herpes zoster
- herpes simplex
- · eczema herpeticum
- · impetigo
- · hand, foot and mouth disease
- · drug reaction

Maculopapular pustular

- · Pseudomonas folliculitis
- · S. aureus folliculitis
- impetigo

Purpuric (haemorrhagic) eruption

- purpura (e.g. drug-induced
- purpura, severe infection)
- vasculitis (vascular purpura)
 Henoch–Schonlein purpura
 - polyarteritis nodosa

Guttate psoriasis

The sudden eruption of small (less than 5 mm) round, very dense, red papules of psoriasis on the trunk. Usually seen in children and adolescents following a sore throat. The rash may extend to the limbs, and soon develops a white silvery scale. It may undergo spontaneous resolution or enlarge to form plaques and tends to last 6 months. Treatment is with UV light and tar preparations.

Drug eruptions

A rash is one of the most common side-effects of drug therapy, which can precipitate many different types of rash; the most common is toxic erythema.

Erythema multiforme

An acute eruption affecting the skin and mucosal surfaces, mainly backs of hands, palms and forearms; also feet, toes, mouth. It is a vasculitis, the causes of which are many but mainly unknown (50%) and herpes simplex virus.

Stevens–Johnson syndrome A very severe and often fatal variant. Sudden onset with fever and constitutional symptoms.

Treatment Identify and remove cause (e.g. withdraw drugs). Symptomatic treatment (e.g. antihistamines for itching). Refer severe cases—usually need hospitalisation and high doses of steroids.

Erythema nodosum

Characterised by the onset of bright red, raised, tender nodules on the shins and sometimes thighs and arms.

Causes/associations

- Sarcoidosis (commonest known cause)
- Infections (e.g. tuberculosis, streptococcal)
- Inflammatory bowel disorders
- Drugs (e.g. sulphonamides)
- Unknown

Investigations Tests include FBE, ESR, chest X-ray (the most important), Mantoux test.

Treatment Identify the cause if possible. Rest and analgesics or NSAIDs for the acute stage. Systemic corticosteroids speed resolution if severe episodes.

Prognosis There is a tendency to settle spontaneously over 3–4 wks.

Hand, foot and mouth (HFM) disease

HFM disease affects both children and adults but typically children < 10 yrs. The lesions develop on hands, palms and soles (usually lateral borders) and

vesicles lead to shallow ulcers on buccal mucosa, gums and tongue. Caused by a coxsackie A virus.

Management Reassurance and explanation (lesions resolve in 3–5 d). Symptomatic treatment: careful hygiene

Sleep disorders

Approximately half of the population report a sleep-related problem in 12 mths. Normal ideal sleep in a fit, young person is 7.5–8 h, with a latency less than 30 mins.

Table 84 Classification of sleep disorders (modified DSM-IV-TR, with key examples)

Dyssomnias

- · primary insomnia
- other disorders initiating or maintaining sleep:
 - periodic limb movements (nocturnal myoclonus)
 - restless legs syndrome
- excessive somnolence:
 - primary hypersomnia
 - narcolepsy
- breathing-related sleep disorders:
 - obstructive sleep apnoea
 - central sleep apnoea
 - central alveolar

hypoventilation syndrome

- · circadian rhythm sleep disorder:
 - jet lag type
 - shift work type
 - delayed sleep phase type

Parasomnias

- nightmare (dream anxiety)
 disorder
 - sleep terror disorder
 - sleepwalking disorder

Secondary sleep disorders

- medical condition disorder
- mental disorder
- substance abuse

Primary insomnia

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Periodic limb movements

Also referred to as nocturnal myoclonus or 'leg jerks', they tend to occur in the anterior tibialis muscles of the leg. Most people are asymptomatic—the diagnosis is often made during sleep studies. If troublesome, referral to a sleep clinic is appropriate.

Medication (if symptomatic)

- levodopa + carbidopa (e.g. Sinemet 100/25, 2 tabs before bedtime) or
- clonazepam 1 mg (o) nocte increasing to 3 mg (o) nocte or
- sodium valproate 100 mg (o) node

Restless legs syndrome

<u>1</u>404

Narcolepsy

<u> 444</u>

Sleep apnoea

Sleep apnoea refers to cyclical brief interruptions of ventilation (breathing) resulting in hypoxaemia and related biochemical effects and terminating in sleep arousal, which is often not recognised by the patient. The main type is *obstructive sleep apnoea*, which involves an intermittent narrowing or occlusion of the pharyngeal area of the upper airway. The effects include snoring and hypopnoea, sometimes apnoea.

Predisposing causes include:

- · diminished airway size (e.g. obesity, tonsillar-adenoidal hypertrophy)
- upper airway muscle hypotonia (e.g. alcohol, neurological disorders)
- · nasal obstruction

Clinical effects include daytime somnolence and neuropsychiatric disturbances (e.g. depression, personality change).

Management Referral to a sleep disorder centre is advisable. General principles and methods:

- I lifestyle modification (e.g. weight loss, no smoking)
- 2 continuous +ve airway pressure (CPAP) delivered by nasal (or facial) mask
- 3 corrective surgery (e.g. tonsillectomy, nasal obstruction)
- 4 oral appliance (e.g. the mandibular advancement splint)
- 5 medication (e.g. amitriptyline)

Parainsomnias

These are dysfunctional episodes associated with sleep, sleep stages or partial arousal. More common in children.

Nightmares (dream anxiety) These occur later in the sleep period and are accompanied by unconscious body movements. Associated with traumatic stress disorders, drugs or drug withdrawal. Psychological evaluation with CBT is appropriate. Medications that may help includes a 6 wk trial of phenytoin, clonazepam or diazepam (355).

Sleep terrors A feature of these are sharp screams, violent thrashing movements and autonomic overactivity. The sufferers may or may not awake and usually cannot recall the event. They require psychological evaluation and therapy. Similar medication as for nightmares can be used.

Sleep walking (somnambulism) In this disorder the person performs some repetitive motor activity in bed or walks around freely. No treatment is usually required but the sleeping environment should be rendered safe if it is repetitive and problematic. Benzodiazepines can be used.

Sleep disorders in children

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Smoking/nicotine

Tobacco smoking is the largest single, preventable cause of death and disease in Australia.

Methods for getting patients to quit Several studies have highlighted the value of opportunistic intervention by the family doctor. Not only is it important to encourage people to quit but also to organise a quitting program and follow-up.

- Educate patients about the risks to their health and the many advantages of giving up smoking, with an emphasis on the improvement in health, longevity, money savings, looks and sexuality.
- · Ask them to keep a smoker's diary.
- If they say no to quitting, give them motivational literature and ask them to reconsider.
- If they say yes, make a contract (example below).
- Arrange follow-up (very important), esp. during first 3 months (at least every month).
- Nicotine education: Nicotine can be used to help withdrawal from cigarette nicotine dependence. It is a temporary measure and should not be used for longer than 6 months.

A contract to quit

I agree to stop smoking on
I understand that stopping smoking is the single best thing I can do
for my health and that my doctor has strongly encouraged me to quit.
(Patient's signature)
(Doctor's signature)

Nicotine replacement therapy (NRT) Formulations:

- nicotine gum
- nicotine inhaler
- nicotine polacrilex (lozenges)
- nicotine transdermal patches (probably best method)—use for 12 wks
 - low to moderate dependence (10-20 cigs/d): 14 mg/24 h or 10 mg/16 h patch daily; change to 7 mg patch after 4-6 wks; aim to cease within 12 wks
 - high dependence (>20 cigs/d): 21 mg/24 h patch daily \rightarrow 14 mg after 4–6 wks \rightarrow 7 mg after 4–6 wks; aim to cease within 12 wks

Note: Ongoing support and counselling (inc. anticipatory guidance) is essential. Patients must not smoke while on patches.

Other agents:

- Bupropion (Zyban SR) 150 mg (o) /d for 4d, then bd for 7 wks, is an
 option. Combining bupropion with NRT is not recommended.
- Varenicline tartrate (Champix) tablets

- Nortriptyline 75mg (o) daily, start 14d before quit date, continue for 12wks.
 NB: regular follow-up for all methods essential.
- · Support group recommended.
- Going 'cold turkey': Stopping completely is preferable but before
 making the final break it can be made easier by changing to a lighter
 brand, inhaling less, stubbing out earlier or reducing the number.
 Changing to cigars or pipes is best avoided.

Quitting tips (advice to patient)

• Make a definite date to stop (e.g. during a holiday).

After quitting:

- eat more fruit and vegetables (e.g. munch carrots, celery and dried fruit)
- · foods such as citrus fruit can reduce cravings
- · chew low-calorie gum and suck lozenges
- increase your activity (e.g. take regular walks instead of watching TV)
- · avoid smoking situations and seek the company of non-smokers
- be single-minded about not smoking—be determined and strong
- · take up hobbies that make you forget smoking (e.g. water sports)

Withdrawal effects The initial symptoms are restlessness, irritability, poor concentration, headache, tachycardia, insomnia, increased cough, tension, depression, tiredness and sweating. After about 10 days most of these effects subside.

Snapping or clinking hip

Some patients complain of a clunking, clicking or snapping hip. This represents a painless but annoying problem.

The usual causes are a taut iliotibial band (tendon or tensor fascia femoris) slipping backwards and forwards over the prominence of the greater trochanter or joint laxity.

Treatment The two basics of treatment are:

- · explanation and reassurance
- · exercises to stretch the iliotibial band

Snoring

If abnormal, refer to a sleep laboratory for assessment and management of obstructive sleep apnoea syndrome and other abnormalities.

If functional, give the following advice to consider.

- Treat nasal congestion (inc. hayfever).
- · Obtain and maintain ideal weight.
- · Avoid drugs (e.g. sedatives, hypnotics, excessive alcohol and smoking).
- Try to sleep on your side.

- Avoid sleeping on the back. If you tend to roll onto your back at night, consider sewing tennis or ping-pong balls on back of nightwear or wear bra (with tennis balls) back to front.
- · Keep neck extended with a soft collar at night for neck problems.
- Provide partner with appropriate ear plugs.
- Consider a trial of an intranasal device such as the Breathing Wonder®—intranasal plastic insert. Your pharmacist can advise you about the range of such devices.

Sore throat

Symptomatic treatment of sore throat

Most acute sore throats caused by viral infection—treat symptomatically.

- · Adequate soothing fluids, inc. icy poles
- Analgesia: adults—2 soluble aspirin or paracetamol; children—paracetamol elixir (not alcohol base)
- · Rest with adequate fluid intake
- Soothing gargles (e.g. soluble aspirin used for analgesia)
- Advice against overuse of OTC throat lozenges and topical sprays, which can sensitise the throat

Table 85 Sore throat: diagnostic strategy model

Q. Probability diagnosis

A. Viral pharyngitis (main cause)
Streptococcal (GABHS) tonsillitis
Chronic sinusitis with postnasal

Q. Serious disorders not to be missed

- A. Cardiovascular:
 - angina
 - myocardial infarction

Neoplasia:

- carcinoma of oropharynx, tongue Blood dyscrasias (e.g.
- agranulocytosis, acute leukaemia) Severe infections:
- acute epiglottitis (children <4 yrs)
- peritonsillar abscess (Quinsy)
- pharyngeal abscess
- · diphtheria (very rare)
- HIV/AIDS

Q. Pitfalls (often missed)

A. Foreign body

Epstein-Barr mononucleosis (big trap)

Candida:

- · common in infants
- steroid inhalers

STIs:

- gonococcal pharyngitis
- herpes simplex (type II)
- syphilis

Reflux oesophagitis → pharyngitis

Irritants (e.g. cigarette smoke, chemicals)

Chronic mouth breathing

Aphthous ulceration

Thyroiditis

Streptococcal tonsillopharyngitis

Four key features of GABHS throat infection

- Fever > 38°C
- · Tender cervical lymphadenopathy

- · Tonsillar exudate
- No cough

Throat swabs are about 90% effective in isolating GABHS from the infected throat if clinical infection present. It should be treated with penicillin or an alternative antibiotic.

Indications for antibiotic therapy

- · Severe tonsillitis with above features of GABHS
- · Existing rheumatic heart disease at any age
- · Scarlet fever
- Peritonsillar cellulitis or abscess (quinsy)
- Patients 3–25 yrs with presumptive GABHS from special communities (e.g. remote Indigenous) with a high incidence of acute rheumatic fever

One evidence-based review recommended that if a cold follows its natural course, no antibiotics will be helpful. If there is a sore throat with no cough, but fever >38°C, tender neck glands and white spots in the throat, antibiotics are indicated.

Treatment for streptococcal throat (proven or suspected) Children

- Phenoxymethylpenicillin 25–50 mg/kg/d (o) in 2–3 divided doses for 10 d (to max. 1g/d) or
- (If sensitive to penicillin) roxithromycin 4 mg/kg up to 150 mg (o) bd for 10 d

Adults

- Phenoxymethyl penicillin 500 mg (0) 12 hrly for 10 d (can initiate treatment with one IMI of procaine penicillin) or
- Roxithromycin 300 mg (o)/d for 10 d

In severe cases

- Procaine penicillin I-I.5 mg IM /d for 3-5 d plus
- Phenoxymethyl penicillin (as above) for 10 d

Note: Although symptoms and most evidence will disappear within I-2d of treatment, a full course of IO days should be given to provide an optimal chance of eradicating S. pyogenes from the nasopharynx and thus minimising the risk of recurrence or complications such as rheumatic fever.

Quinsy

For a peritonsillar abscess treat with antibiotics (e.g. procaine penicillin IM or clindamycin) plus drainage under local anaesthetic if it is pointing. Oral penicillin treatment is likely to fail. Subsequent tonsillectomy is usually recommended.

Diphtheria

Management

- · Throat swabs
- Antitoxin
- Penicillin or erythromycin 500 mg qid for 10 d
- · Isolate patient

Candida pharyngitis

Management

- Determine underlying cause (e.g. diabetes, HIV infection, corticosteroids).
- · Nystatin suspension, rinse and swallow qid.

Note: Don't forget to consider the often misdiagnosed Epstein-Barr mononucleosis.

Spinal dysfunction

Spinal or vertebral dysfunction can be regarded as a masquerade mainly because the importance of the spine as a source of various pain syndromes has not been emphasised in medical training.

If a patient has pain anywhere it is possible that it could be spondylogenic and practitioners should always keep this in mind.

Cervical spinal dysfunction

If the cervical spine is overlooked as a source of pain (such as in the head, shoulder, arm, upper chest—anterior and posterior—and around the ear or face) the cause of the symptoms will remain masked and mismanagement will follow.

Thoracic spinal dysfunction

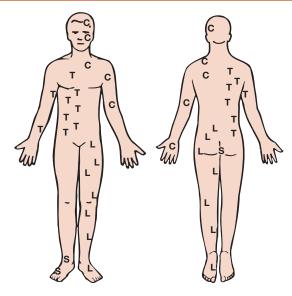
The most common and difficult masquerades related to spinal dysfunction occur with disorders of the thoracic spine (and also the low cervical spine), which can cause vague aches and pains in the chest, inc. the anterior chest.

Such referred pain can mimic symptoms of visceral disease such as angina and biliary colic.

Lumbar spinal dysfunction

The association between lumbar dysfunction and pain syndromes is generally easier to correlate. The pain is usually located in the low back and referred to the buttocks or the backs of the lower limbs. Problems arise with referred pain to the pelvic area, groin and anterior aspects of the leg.

Typical examples of referral and radicular pain patterns from various segments of the spine are presented in Fig. 94 overleaf.



C = cervical; T = thoracic; L = lumbar; S = sacral

Figure 94 Examples of referred and radicular pain patterns from the spine (one side shown for each segment)

Splenectomy patients

Main indications: ITP, hypersplenism, trauma, Hodgkin/non-Hodgkin lymphoma, haemolytic anaemia.

Prophylaxis

- · Education about risks and infections esp. malaria
- Pneumococcal immunisation: 2-3 wks preoperative, rpt 5 yrs
- · Haemophilus B (once only if not immunised)
- Meningococcus vaccine every 5 yrs
- · Influenza vaccine-annual
- · Long-term penicillin: amoxycillin daily or phenoxymethyl penicillin bd
- · Urgent hospital admission if infection develops

Sprained ankle

The treatment of ankle ligament sprains depends on the severity of the sprain. Most grade I (mild) and II (moderate) sprains respond well to standard conservative measures and regain full, pain-free movement in I=6 wks,

but controversy surrounds the most appropriate management of grade III (complete tear) sprains (surgery or plaster immobilisation).

Beware of an underlying fracture—always X-ray if doubtful.

Grades I and II sprains

R rest the injured part for 48 h, depending on disability

I ice pack for 20 mins every 3-4h when awake for the first 48h

C compression bandage (e.g. crepe bandage)

E elevate to hip level to minimise swelling

A analgesics (e.g. paracetamol)

R review in 48h, then 7d

S special strapping

Use partial weight-bearing with crutches for the first 48 h or until standing is no longer painful, then encourage early full weight-bearing and a full range of movement with isometric exercises. Use warm soaks, dispense with ice packs after 48 hrs. Aim towards full activity by 2 wks.

Stinging fish

Injury due mainly to sharp spines (e.g. stone fish).

- Bathe or immerse part in very warm to hot water (40°C).
- · Consider infiltration with local anaesthetic.

Stitch in side (precordial catch, Texidor twinge)

A stitch in the epigastric or hypochondrium is sharp unilateral pain due to cramping in the diaphragm. It is common in children and adolescents and lasts ½–3 minutes.

- Stop and rest when the pain strikes during activity, especially long distance running. Then walk—don't run. Relieved by straightening up and taking very slow deep breaths followed by shallow breaths.
- Apply deep massage to the area with pulps of middle 3 fingers.
- Perform slow deep breathing.

Prophylaxis: undertake a program of abdominal breathing prior to activity.

Stroke and TIAs (transient ischaemic attacks)

A *stroke* is a focal neurological deficit lasting longer than 24 hrs and is caused by a vascular phenomenon.

A *transient ischaemic attack* (TIA) is a focal neurological deficit, presumably due to ischaemia, lasting less than 24 h.

A stroke in evolution is an enlarging neurological deficit, presumably due to infarction, that is increasing over 24–48 h.

The common causes of stroke are 1° intracerebral haemorrhage (10%); SAH 5% and ischaemic stroke 85%.

Stroke

Key messages

- Treat all TIAs and strokes as emergencies and admit to specialised stroke units with imaging facilities (CT and /or MRI) esp. if the unit provides thrombolytic therapy (if possible) for ischaemic stroke.
- There is a 3-h time frame from onset of stroke for thrombolytic therapy to be effective.
- The FAST mnemonic: Face (ask person to smile), Arms (raise both arms),
 Smile (ask person to smile), Time ?3 h

Three proven strategies to improve outcome of acute stroke (level 1 evidence):

- giving IV plasminogen activator (rt PA) within 3h for ischaemic stroke
- · giving antiplatelet agents within 48 hrs of ischaemic stroke
- · management in a stroke unit

Practice points

- CT (or MRI—preferred if available) scan is ordered on all these patients: if normal repeat in 7–10 d
- · Cardiac disease is a common source of emboli.
- Consider possibility of a patent foramen ovale (in 20% population) in younger people (paradoxical emboli: veins \rightarrow brain).
- · Sudden stroke is typical of embolism.
- Carotid and transcranial US is used to investigate carotid artery and posterior circulation. (Fig. 95)

Management (best in stroke unit)

- · Investigation inc. identification of risk factors
- Treat hypertension vigorously and other risk factors, e.g. \uparrow cholesterol
- · IV fluid, electrolyte and nutritional support
- · Physiotherapy and speech therapy
- Vigorous rehabilitation with a multidisciplinary team
- Intracerebral haemorrhage (tends to 'grow'): consider surgical evacuation for cerebellar and cerebral white matter haemorrhage
- SAH: nimodipine ± surgery
- · Infarction:
 - thrombolytic therapy with rtPA (alteplase)
 - antiplatelet agents e.g. aspirin
 - heparin not recommended

Transient ischaemic attacks

Some ischaemic syndromes

- Transient monocular blindness (amaurosis fugax)
- · Transient hemisphere attacks
- · The 'locked in' syndrome

Carotid artery symptoms Vertebrobasilar artery symptoms homonymous amaurosis fugax hemianopia (sudden blindness nausea ± vomiting in one eye) internal bilateral blurring carotid dysphasia or blindness diplopia external- vertigo carotid vertebral arteries dysarthria common carotid hemiplegia ataxia ± bilateral unilateral weakness weakness or paralysis or numbness numbness of face · drop attacks and arm (especially) and leg

Figure 95 Cerebral arterial circulation with some important clinical features of carotid and vertebrobasilar ischaemia

- · Vertebrobasilar (VBI), for example:
 - bilateral motor loss
 - crossed sensory and motor loss
 - diplopia
 - bilateral blurring or blindness

Investigations

- FRF
- · CT scan or MRI
- · Blood glucose, creatinine and cholesterol
- · Thyroid function tests
- Carotid duplex Doppler US (for carotid territory symptoms)
- ? ECG
- Transoeophageal echocardiography
- · CT scan (non-contrast)/MRI

Table 86 ABCD stroke risk tool

This screening tool is useful as a predictor for risk of stroke in the first 7 days of a TIA.

- $A = Age \ge 60 \text{ years (1 point)}$
- $\mathbf{B} = \mathsf{BP} \ge 140 \text{ systolic or } \ge 90 \text{ diastolic (1 point)}$
- C = Clinical features: any unilateral limb weakness (2 points), speech impairment without weakness (1 point)
- D = Duration: ≥60 minutes (2 points), 10-59 minutes (1 point)
- D = Diabetes: 1 point
 - Maximum 7 points
 - >4 = high risk
 - $\leq 4 = low risk$

Management (Table 87)

- Aim to minimise risk of a major stroke (Table 86).
- · Determine cause and correct (if possible).
- · Cease smoking and treat hypertension (if applicable).
- Give statin treatment for hypercholesterolaemia.
- · Antiplatelet therapy:
 - aspirin 100-300 mg/d or
 - dipyridamole + aspirin 200 mg/25 mg (Asasantim SR) (o) bd or
 - (if aspirin contraindicated) clopidogrel 75 mg (o) daily.
- · Anticoagulation therapy—warfarin:
 - for VBI (increasing frequency TIAs)
 - for failed antiplatelet therapy
 - atrial fibrillation (selected cases) esp. > 65 yrs.
- Carotid endarterectomy: although its efficacy is uncertain it does appear to have a place in the management of carotid artery stenosis and the decision depends on the expertise of the unit. There is no evidence that surgery is appropriate for the asymptomatic patient with a stenosis less than 60% or the symptomatic patient with a stenosis less than 30%, but there is a significant benefit for a stenosis greater than 70% (and possibly > 60% in asymptomatic patients).
- · Carotid stenting has an evolving place; best determined in stroke unit.

Table 87 CHADS₂ criteria and stroke risk

CHADS2 criteria	Points	Stroke risk	Recommended therapy	
Previous stroke or TIA	2	High (2–6)	Warfarin (INR 2–3)	
Age ≥75 years	1	Moderate (1)	Warfarin or aspirin	
Hypertension	1	Low (o)	Aspirin (100-300 mg daily)	
Diabetes mellitus	1			
Heart failure	1			

Atrial fibrillation and TIAs

Management

- · Valvular disease: warfarin
- Non-valvular (lone) AP:
 - no risk factors: aspirin 100-300 mg/d
 - risk factors: warfarin: INR 2-3
 - if warfarin contraindicated: aspirin

Indications for carotid duplex Doppler US studies

- · Bruit in neck, because of significant stroke rate
- TIAs
- · Crescendo TIAs (more frequent and longer lasting)

- · Vertebrobasilar insufficiency symptoms
- · Hemispheric stroke
- · Prior to major vascular surgery (e.g. CABG)

When to refer

- · Consider referral most cases
- · Suspicion of SAH
- · Carotid artery stenosis
- · Cerebellar haemorrhage on CT scan
- Stroke in a young patient < 50 yrs, consider patent foramen ovale and other rare causes

Stuttering

T20

Stye in eye

- Apply heat with direct steam from a thermos onto the closed eye or by a hot compress (helps spontaneous discharge).
- Perform lash epilation to allow drainage (incise with a D_{II} blade if epilation doesn't work).
- Only use topical antibiotic ointment (e.g. chloramphenicol) if infection spreading locally, and systemic antibiotics if distal spread noted by preauricular adenitis.

Subconjunctival haemorrhage

- Patient explanation and reassurance is necessary.
- · Hypertension is an uncommon association.
- · It absorbs over 2 wks.
- Although no local therapy is nec., bathing with a weak salt solution twice daily can be recommended.

Sudden infant death syndrome (SIDS) and ALTE

Preventive advice

After baby is born:

- Place to sleep on their back with no pillow (unless special reasons for placing on stomach).
- · Ensure the head is uncovered.
- · Breastfeeding.
- Ensure babies are not exposed to cigarette smoking (before and after birth).

- Ensure that babies do not get overheated (the sign of sweating around the head and neck indicates the baby is too hot).
- · Bed coverings no more than adults require.
- Nothing else in cot (e.g. soft toys) and preferably sleep alone.
 If baby is unwell, seek medical advice.

Management of SIDS

- · Allow parents to see or hold baby.
- Give explanations inc. reasons for coroner's involvement.
- · Provide bereavement counselling.
- Provide early contact and continuing support.
- · Contact the SIDS support group.
- · Revisit home.
- · Provide hypnotics (limited).
- Offer advice on lactation suppression.
- Remember siblings can also experience grief reactions.
- The police and coroner must be notified.

Apparent life-threatening episode (ALTE)

ALTE or 'near-miss SIDS' is defined as a 'frightening' encounter of apnoea, colour change or choking. At least 10% will have another episode. Management includes admission to hospital for investigation and monitoring.

Guidelines for home apnoea monitoring (doubtful value):

- ALTE
- subsequent siblings of SIDS victims
- · twins of SIDS victims
- · extremely premature infants

Sunburn

Treatment

- Aspirin (for pain)
- · Promethazine (for sedation/itching) only if nec.

Topical:

- Hydrocortisone 1% ointment or cream for unblistered severe cases (early) repeat in 2–3 h, then next day (not after 24 h) or
- Bicarbonate of soda paste, applied 2 hrly or
- · Oily calamine lotion

Prevention

Avoid exposure to summer sunlight 10 am-3 pm (or 11 am-4 pm DST). Use natural shade, beware of reflected light from sand or water and light cloud. Use a sunscreen with a min. of SPF 30 or more. Wear broad-brimmed hats and protective clothing.

Sweating

Sweating (excessive) Perspiration, 2 388

General hyperhidrosis

- · Explanation and reassurance
- Trial of probanthine aluminium chloride 20% in alcohol solution if localised area

Axillary hyperhidrosis

Treatment

- · Explanation and reassurance
- See Treatment of body odour (□ 74)
- Aluminium chloride 20% in alcohol solution (Driclor, Hidrosol); apply nocte for I wk, then I-2 times wkly or as nec.

Surgery

Wedge resection of a small block of skin and subcutaneous tissue from axillary vault. Define sweat glands with codeine starch powder. The area excised is usually about $4\,\text{cm} \times 2.5\,\text{cm}$.

Syphilis

<u> 1</u>412



| T |

Tampon toxic shock syndrome

Caused by staphylococcal exotoxin associated with tampon use. The syndrome usually begins within 5 days of the onset of the period.

Clinical features include sudden onset fever, vomiting and diarrhoea, muscle aches and pains, skin erythema, hypotension progressing to confusion, stupor and sometimes death.

Management

Active treatment depends on the severity of the illness. Cultures should be taken from the vagina, cervix, perineum and nasopharynx. The patient should be referred to a major centre if 'shock' develops. Otherwise the vagina must be emptied, ensuring there is not a forgotten tampon, cleaned with a povidone–iodine solution tds for 2 d, and di(flu)cloxacillin or vancomycin antibiotics administered for 8–12 d.

Tearduct (nasolacrimal duct) blockage in child

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- If conjunctivitis present: neosporin or chloramphenicol eye drops
- Perform regular massage from inner canthus to base of nose (teach mother) at least twice daily
- If persistent in infant: requires nasolacrimal probing at 4–6 mths—otherwise leave to 6 mths or more as it may resolve

Teething

Babies usually cut their teeth from 6 mths until 2-3 yrs with discomfort usually caused by the molars (ages I-3).

Precautions: exclude other possible causes of irritability in a teething child (e.g. UTI, meningitis, otitis media). Teething doesn't cause fever.

Treatment

- Reassure parents that the problem will soon settle
- Paracetamol
 rarely
- Trimeprazine (Vallergan) or other antihistamine (o) nocte \int nec.

Chewing soothing methods

• Teething ring (kept cold in the refrigerator) or

- Baby can chew on a clean, cold, lightly moistened facewasher (a piece of apple can be placed in the facewasher) or
- Parent can massage gum with forefinger wrapped in a soft cloth or gauze pad (Oro-Sed gel can be massaged into gums every 3h if extremely troublesome)

Temporomandibular joint dysfunction

Refer to the techniques on \square 237. Most effective and simplest method is placing a piece of soft wood (e.g. carpenter's pencil) firmly against back molars and biting rhythmically on the object with a grinding movement for 2–3 mins at least 3 times a day.

Tennis elbow

□ 41

Tension headache

<u>272</u>

Testicular tumours

A mass that is part of the testis, and solid, is likely to be a tumour.

Clinical features

- Young men 15–40 yrs
- Painless lump in body of testis (commonest feature)
- · Loss of testicular sensation
- Associated presentations (may mask tumour) (e.g. hydrocele, epididymo-orchiditis)

- Golden rules
- All solid scrotal lumps are malignant until proven otherwise and must be surgically explored.
- · Beware of hydroceles in young adults.
- Investigate with US.
- Avoid scrotal needling because of risk of tumour implantation in scrotal wall. For surgery, orchidectomy is through an inguinal incision.

Prognosis is good for most testicular tumours with 5-yr cure rates of 90-95%. Refer early to specialist centre.

Table 88 Comparison of the common testicular cancers

	Seminoma	Non-seminoma (NSGCT)
Typical age	25–40 yrs	<35 yrs
Incidence	40%	60%
Growth rate	Slow	Rapid
Nature	Solid	Mixed—solid + cystic
	Seminoma	Non-seminoma (NSGCT)
Stage at presentation	90%—stage 1	60%—stage 1
Tumour markers		
αFP	never	common
β-HCG	occasional	common
Treatment	Inguinal orchidectomy + radiotherapy	Stage 1: orchidectomy Relapse: chemotherapy
Sensitive to chemotherapy	+++	+++
Sensitive to		
radiotherapy	+++	±
Prognosis	Stage 1: 99% 5yr survival Overall: >85%	Stage 1: 93% cure by surgery Otherwise varies

Tetanus

Up to 20% of patients have no observable entry wound.

Clinical features

- · Prodrome: fever, malaise, headache
- Trismus (patient cannot close mouth)
- Risus sardonicus (a grin-like effect from hypertonic facial muscles)
- · Opisthothonus (arched trunk with hyperextended neck)
- · Spasms, precipitated by minimal stimuli

Differential diagnosis: phenothiazine toxicity, strychnine poisoning, rabies.

Refer immediately to expert centre.

Intubate and ventilate if nec.

Prophylaxis Immunisation of adults:

- · two doses 6 wks apart
- · third dose 6 mths later

Boosters every 10 yrs or 5 yrs if major wound.

In wound management (see Table 89).

Table 89 Guide to tetanus prophylaxis in wound management

Time since vaccination	Type of wound	Tetanus toxoid	Tetanus immunoglobulin	
History of 3 or	History of 3 or more doses of tetanus toxoid			
<5yrs	all wounds	no	no	
5–10 yrs	clean minor wounds	no	no	
	all other wounds	yes	no	
>10 yrs	all wounds	yes	no	
Uncertain vaccination history or less than 3 doses of tetanus toxoid				
	clean minor wounds	yes	no	
	all other wounds	yes	yes	

Thrombophilia

This refers to a disorder of haemostasis in the form of a primary coagulopathy leading to a tendency to thrombosis. It should be considered in patients with major venous thromboembolism \pm FH of venous thrombosis.

The hereditary factors are: factor V Leiden gene mutation, prothrombin gene mutation, protein C deficiency, protein S deficiency and antithrombin deficiency.

Acquired factors are antiphospholipid Abs, ↑ homocysteine and lupus anticoagulant. These can all be measured in the laboratory. Consider screening patients with a DVT especially in travellers at risk.

Thrush (candidiasis) of mouth

In infants: nystatin oral drops or miconazole oral gel, I mL held in mouth as long as possible 4 times daily

In adults:

- amphotericin, I lozenge (Io mg) dissolved slowly in mouth, 6 hrly for IO d or
- miconazole oral gel 50 mg 6 hrly dropped onto tongue and held in mouth as long as possible

Thumb sucking

Basically a habit under 4 yrs; can extend to 12 yrs. Only causes damage ('buck teeth') from time of onset of permanent teeth (6–7) but usually settles by then. Usually spontaneous cessation if not an issue between child and parent.

Management

- · Can prevent by use of dummy (pacifier)
- · No special diet or medication

- · Avoid drawing attention to it
- · Give child extra attention
- Help child explore other solutions/distractions
- · Refer if prolonged and excessive

Thyroid disorders

Thyroid disorders can be a diagnostic trap in family practice. Thyroid function tests are the basis of diagnosis. The serum TSH, the most sensitive index of thyroid function, is the key test. Various thyroid antibodies aid specific diagnosis. Relative values are summarised in Table 90.

Table 90 Summary of thyroid function tests

Table 30° Sammary of myrola function tests				
	TSH	T ₄ free thyroxine	T ₃ tri-iodothyronine	
Normal range	0.4-4.5 mU/L	10–20 pmol/L	3.3–8.3 pmol/L	
Hypothyroidism primary # secondary (pituitary dysfunction)	↑* N or ↓	↓ * ↓	$ \begin{array}{c} N \; or \; \downarrow \\ N \; or \; \downarrow \end{array} \} \; not \; useful \;$	
Hyperthyroidism#	\ *	^ *	^ *	
Sick euthyroid	N or ↓	N or ↓	N or ↓	

Note: Results similar to hyperthyroidism can occur with acute psychiatric illness.

#antithyroid antibodies may be elevated

Hypothyroidism (myxoedema)

DxT: tiredness + husky voice + cold intolerance

- Typically physical and mental slowing, lethargy, constipation, cold intolerance and characteristic signs (e.g. dry, cool skin)
- T_{Δ} —subnormal, TSH elevated (>10 is clear failure)
- $T\overset{\tau}{S}H \uparrow$; $T_4 N \rightarrow$ subclinical hypothyroidism ?treat

Thyroid medication Thyroxine 100–150 mcg daily (once daily)

Note: Start with low doses (25–50 mcg/d) in elderly and ischaemic heart disease.

Monitor TSH levels monthly at first, then 2–3 mthly and when stable on optimum dose of T, every 2–3 yrs.

Hashimoto's thyroiditis

Commonly presents as postpartum hypothyroidism (thyroiditis):

- bilateral goitre, firm and rubbery
- may be hypothyroid or euthyroid (possible thyrotoxic early)

^{*}Main tests

Diagnosis confirmed by a strongly +ve antithyroid antibody titre and/or fine needle aspiration cytology.

Neonatal hypothyroidism

This demands early diagnosis to avoid intellectual disability (cretinism): thyroxine replacement should be started by the 14th day.

Hyperthyroidism (thyrotoxicosis)

DxT: anxiety + weight loss + weakness

Classic symptoms of hyperactive metabolism, inc. heat intolerance, agitation, restlessness, warm and sweaty hands, may be absent in elderly patients. Avoid dismissing it as anxiety.

- T₃ (and T₄) elevated, TSH suppressed
- · Possible antithyroid peroxidase antibodies
- Radioisotope scan a very useful test Refer to endocrinologist for treatment.

Subacute thyroiditis

Usually transient and often follows a viral-type illness. May be pain over goitre and fever.

Tick bites

Some species of ticks are very dangerous so it is mandatory to remove the embedded tick, which should be totally removed, inc. the mouthparts. Be careful with children <5 yrs—usually in scalp and behind ear. Do not attempt to grab the tick by its body and tug.

First aid outdoor removal method

Loop a strong thin thread around the head as close to the skin as
possible then pull sharply with a twisting motion.

Office procedure

- · Infiltrate a small amount of LA in the skin around the site of embedment.
- With a number II or I5 scalpel blade make the necessary very small excision, inc. the mouthparts of the tick, to ensure total removal.
- The small defect can usually be closed with a bandaid (or Steri-strips).
- · Careful observation required after removal.

Tics

Motor and vocal tics are a feature of Tourette's disorder (1 121).

If socially disturbing treat with haloperidol 0.25 mg (o) nocte, very gradually increasing to 2 g (max.) daily.

So-called tics of the eyelids are probably a focal dystonia (blepharospasm, \square 207).

Tinea infections

Tinea, or ringworm infections, are caused mainly by three major classes of dermatophytic organisms. It is most useful to perform skin scrapings and microscopy to look for encroaching septate hyphae. Confirm the diagnosis by fungal culture.

Tinea capitis

Clinical features

- · Usually in children
- · Patches of partial alopecia
- · Scaly patches
- · Small broken-off hair shafts
- Hairs usually fluoresce yellow-green with Wood's light (about 60%)

Treatment

- griseofulvin (o)
 - adults: 500 mg/d
 - children: 10 mg/kg/d (max. 500 mg) 4-8 wk course or
- ketoconazole (o)
 - adults: 200 mg/d, 4-8 wks
 - children: 5 mg/kg/d (max. 200 mg) or
- terbinafine (o)
 - adults: 250 mg/d, 4 wks
 - children: 62.5-125 mg

Also: Take hair plucking and scale for culture; Selsun or ketoconazole shampoo twice wkly.

Tinea cruris (jock itch)

- · Related to chafing in groin (e.g. tight pants, and esp. nylon 'jock straps')
- · Scaling, esp. at margin
- · Well-defined border

Diagnostic aids

- Skin scrapings should be taken from the scaly area for preparation for microscopy.
- Wood's light may help the diagnosis, particularly if erythrasma is suspected.

Treatment

- · Soak the area in a warm bath and dry thoroughly.
- Apply clotrimazole 1% or miconazole 2% or ketoconazole 2% or econazole 1% cream or terbinafine 1% cream or gel/d; rub in a thin layer bd for 14d after symptoms resolve.
- When almost healed, apply tolnaftate dusting powder bd for 3-4 wks.
- If itch severe: add 1% hydrocortisone cream.
- If weeping: apply Burow's solution compresses.

 For persistent or recurrent eruption, use oral griseofulvin for 4 wks, or terbinafine for 2–6 wks or itraconazole for 7d.

Tinea pedis (athlete's foot)

Symptoms Commonest symptoms are itchiness and foot odour. There is scaling, maceration and fissuring of the skin between the fourth and fifth toes and also third and fourth toes.

Management

- · Patient education.
- · Keep feet clean and dry.
- · Use antifungal powder between toes after drying.
- Wear socks of natural absorbent fibres—cotton and wool (avoid synthetics).
- Wear open sandals and shoes with porous soles and uppers (if possible).
- Use thongs in public showers.
- · Keep toe spaces separated if interdigital.

Treatment As for tinea cruris. If widespread or smelly vesiculobullous (take scrapings), use griseofulvin (fine particle) 500 mg (o) daily for 6 wks or terbinafine 250 mg (o) for 2–6 wks.

Tinea of toenails and fingernails (tinea unguium)

- · Usually associated with tinea pedis
- · Nails show white spots; may be yellow and crumbling
- · Starts at the edge of periphery and spreads towards base
- Diagnosis is by culture and histology of distal nail plate clippings placed in formalin

Treatment Topical:

- Cut affected nail well back, elevate the nail slightly at the edges and apply
 - tincture miconazole (Daktarin) to and under nail bd for 8-12 wks or
 - terbinafine cream bd for 8-12 wks or
 - amorolfine 5% nail lacquer (Loceryl) 1–2 times wkly after filing until resolved (fingers 6 mths, toes 9 mths)

Consider twice daily application of tea tree oil indefinitely for tinea pedis General:

terbinafine 250 mg (o)/d

- fingernails 6 wks
- toenails 12 wks

This is the treatment of choice for tinea unguium or

 itraconazole (Sporanox) 200 mg (o) bd—as pulse therapy: 1 wk on, 3 wks off x 2 fingernails, x 3 toenails

Tinea corporis

Management

- · Ensure not handling guinea pigs (facial lesions)
- Take skin scrapings

Treatment: clotrimazole 1% or miconazole 2% applied bd for 2–4 wks or terbinafine 1% cream or gel once daily for 1 wk. Oral terbinafine or griseofalvin for up to 6 wks if no response or widespread.

Tinea incognito

This is the term used for unrecognised tinea infection due to modification with corticosteroid treatment. The lesions are enlarging and persistent, esp. on the groins, hands and face.

The sequence is initial symptomatic relief of itching, stopping the ointment or cream and then relapse.

Tinnitus

Precautions

- Exclude wax, drugs inc. marijuana, vascular disease, venous hum (jugular vein), Meniere's syndrome, depression, aneurysm and vascular tumours.
- Beware of lonely elderly people living alone (suicide risk).
 Note: Otosclerosis in young adults causes tinnitus and deafness.

Investigations

- Audiological examination by audiologist
- · Tympanometry and speech discrimination
- · MRI (if serious cause suspected)

Management

- · Treat any underlying cause and aggravating factors
- · Educate and reassure the patient/counselling

Holistic approach to minimise symptoms (options)

- · Relaxation techniques
- Cognitive behaviour therapy
- Background 'noise' (e.g. music playing during night) or
- · Tinnitus maskers or
- · Hearing aids (based on audiological assessment)
- · Consider hypnotherapy

Drug trials to consider (limited efficacy)

- Clonazepam o.5 mg nocte
- Betahistine (Serc) 8–16 mg daily (max. 32 mg)
- Carbamazepine
- Sodium valproate
 - Minerals (e.g. zinc and magnesium)

Acute severe tinnitus

Slow IV injection of 1% lignocaine. Up to about 5 mL can be very effective.

Those for investigation

- · Asymmetrical with hearing loss (? acoustic neuroma)
- · True pulsatile tinnitus
- · Severe hearing loss

Tiredness/fatigue

Tiredness can be a symptom of a great variety of serious and uncommon diseases, inc. malignant disease. The most probable diagnoses to consider are:

- · tension, stress and anxiety
- · depression
- · viral or postviral infection
- · sleep-related disorders, e.g. sleep apnoea

It is important not to overlook drugs whether self-administered or iatrogenic as a cause.

Sleep-related disorders

An important cause of daytime tiredness is a sleep disorder such as obstructive sleep apnoea, which results in periodic hypoventilation during sleep. It occurs in 2% of the general population in all age groups and in about 10% of middle-aged men. A history of snoring is a pointer to the problem.

Referral to a comprehensive sleep disorder centre is appropriate if this disorder is suspected.

Narcolepsy

Narcolepsy is a condition where periods of irresistible sleep occur in inappropriate circumstances and consists of a tetrad of symptoms:

- sudden brief sleep attacks (15-20 mins)
- cataplexy—a sudden loss of muscle tone in the lower limbs—may slump to floor
- sleep paralysis
- hypnagogic (terrifying) hallucinations on falling asleep

Treatment

- · methylphenidate (Ritalin) or amphetamines (dexamphetamine)
- tricyclic antidepressants (small doses) for cataplexy

Chronic fatigue syndrome (CFS)

CFS is defined as debilitating fatigue, persisting or relapsing over 6 mths, associated with a significant reduction in activity levels of at least 50% and for which no other cause can be found. Prevalence $\sim 1\%$; $\cite{1}$ $\cite{1}$ $\cite{1}$ $\cite{2}$ $\cite{1}$ $\cite{1}$ $\cite{2}$ $\cite{1}$ $\cite{2}$ \cit

It does appear to be a real illness, probably caused by a virus. Standard screen—FBE, ESR, electrolytes, urea and creatinine, calcium, LFTs, FSH, urinalysis.

Management

- · Recognition of CFS
- · Ongoing support
- · Rest and pacing activity; avoid aggr. factors, e.g. alcohol
- · A supervised self-management action plan
- · Cognitive therapy, meditation and group support

Best evidence indicates CBT from a skilled therapist and exercise are beneficial.

Medication options:

- antidepressant trial (if signs of depression)
- · NSAIDs for florid aches and pains

Tongue disorders

The causes of a sore or painful tongue are similar to those of a sore mouth or throat. The cause is usually obvious upon examination but there are some obscure causes. Investigations may include an FBE, serum vitamin $B_{\rm ps}$, folate and ferritin, a swab or a biopsy of a suspicious lesion.

Table 91 Tongue soreness: diagnostic strategy model

Q. Probability diagnosis	Crohn's & coeliac disease		
A. Geographical tongue	Behcet's syndrome		
Candidiasis	Q. Seven masquerade checklist		
Trauma (bites, teeth, hot	A. Depression √		
food/drink)	Diabetes √ <i>Candida</i>		
Aphthous ulceration	Drugs √ mouthwashes,		
Herpes simplex (children)	aspirin		
Q. Disorders not to be missed	Anaemia √ various		
A. Carcinoma, HIV	Q. Is the patient trying to tell me		
Q. Pitfalls (often missed)	something?		
A. Anaemia: iron, B ₆ , B ₁₂ , folate	A. Possible with glossodynia		
deficiency			
Glossopharyngeal neuralgia			
Lichen planus			
Fissured tongue (rarely causes			
soreness)			
Median rhomboid glossitis			

Tongue tips

- Look for evidence of trauma, esp. from a sharp tooth
- A miserable child with a painful mouth and tongue is likely to have acute primary herpetic gingivostomatitis
- In your history take note of self-medications, esp. sucking aspirin, a history of skin lesions (e.g. lichen planus) and consider underlying diabetes or immunosuppression
- A long history of soreness with spicy or other foods indicates benign migratory glossitis (geographical tongue) or median rhomboid glossitis
- · Any non-healing or chronic ulcer requires urgent referral
- Glossodynia (painful tongue) characteristically presents as burning pain on the tip of the tongue. It can be a real 'heartsink' presentation. Consider depressive illness as an underlying cause.
- Macroglossia (large tongue): consider acromegaly, myxoedema, amyloidosis, lymphangioma.
- Strawberry tongue: consider scarlet fever, Kawasaki's disease.

Erythema migrans

Geographical tongue, 🗅 260

Black or hairy tongue

This causes bad tastes and a malodorous oral cavity. Basically a harmless condition that can be related to smoking, poor oral hygiene or use of antibiotics.

Treatment

- · Brush with toothbrush using sodium bicarbonate paste or
- Suck fresh pineapple pieces: cut a thin slice into eight segments slowly suck a segment on the back of the tongue for 40 secs, then slowly chew it

Torticollis (acute wry neck)

Muscle energy therapy, which is simple to use and highly effective, is recommended. See \square 354.

Travel medicine and tropical infections

 The main diseases facing the international traveller are traveller's diarrhoea (relatively mild) and malaria, esp. CRFM.

- Infections transmitted by mosquitoes include malaria, yellow fever, Rift Valley fever, Japanese encephalitis and dengue fever. Preventing their bites is excellent prevention.
- STIs, inc. HIV, of concern in certain areas. Prevention of disease is a key role for the GP (Table 92)

Table 92 Summary of preventive measures and vaccinations for travel

All travellers, all destinations Tetanus toxoid and diphtheria booster if > 10 yrs since last dose if > 5 yrs for 3rd-world travel All travellers to developing countries free of malaria Tetanus toxoid booster Polio immunisation, if > 10 yrs Measles immunisation (consider MMR) Influenza & pneumococcus (those at risk) Yellow fever (if compulsory)

Preventive measures against:

- · gastrointestinal infections
- sexually transmitted infections
- mosquito bites

Travellers to developing and other countries at high risk of infection

As above plus: Malaria prophylaxis

Hepatitis A-vaccine or immunoglobulin

Hepatitis B

Tuberculosis (BCG if Mantoux -ve) Typhoid

Other vaccinations: consider

- meningococcus
- · Japanese B encephalitis
- rabies
- typhus
- plague
- cholera

Malaria

Prevention

Follow two simple rules:

- Avoid mosquito bites.
- · Take antimalarial medicines regularly.

Consider:

- · smearing an insect repellent on exposed parts of the body
- using mosquito nets
- impregnating nets with permethrin (Ambush) or deltamethrin.

Drug prophylaxis

Treatment of breakthrough malaria during travel (where medical care unavailable)

 mefloquine 500 mg (2 tabs) statim; repeat after 6–8h or artemether/lumefantrine (Riamet) 4 tabs at 0, 8, 24, 36, 48, 60 h

Summary of recommendations

- 1. CSFM area: chloroquine 300 mg/wk
- 2. CRFM area: mefloquine 250 mg/wk or doxycycline 100 mg/d
- 3. Multi-drug resistant area: doxycycline 100 mg/d

For stays > 8 wks in areas 2 & 3: chloroquine 300 mg/wk plus doxycycline 50–100 mg/d

Standby treatment: mefloquine + Fansidar or artemether/lumefantrine

CSFM = chloroquine-sensitive falciparum malaria

CRFM = chloroquine-resistant falciparum malaria

Table 93 Common drugs used for malarial prophylaxis

	Adult dosage	Children's dose
Chloroquine	300 mg base (2 tabs) same day each wk, 1 wk before, during, 4wks after exposure	5 mg base/kg up to max. adult dose
Doxycycline	100 mg each day, 1–2 d before, during, 2–4 wks after	>8yrs only, 2 mg/kg/d up to 100 mg
Mefloquine (Lariam)	250 mg (1 tab) same day each wk, 1 wk before, during, 4 wks after	Not recommended < 45 kg > 45 kg as for adults

Fever in the returned traveller

Probability diagnosis: malaria, respiratory tract infection inc. bacterial pneumonia, gastroenteritis, dengue fever, Hepatitis A.

Serious disorders: as above, TB, typhoid, encephalitis, meningococcal meningitis, meloidosis, amoebiasis (liver abscess), all haemorrhagic fevers, schistosomiasis, African trypanosomiasis.

Investigations (if no obvious cause): FBE (?eosinophils, ESR, thick and thin blood films, blood culture, LFTs, urine-M & C, stool-M & C, new malaria tests, CXR.

Diarrhoeal illnesses

Traveller's diarrhoea

The illness is usually mild and lasts only 2–3 d. Unusual to last longer than 5 d. Mainly caused by an *E. coli* strain.

Treatment

Mild diarrhoea

- · Maintain fluid intake—cordial or diluted soft drink
- Antimotility agents (judicious use: if no blood in stools) loperamide (Imodium) 2 caps statim then I after each unformed stool (max: 8 caps/d)

Moderate diarrhoea

- · Attend to hydration
- Patient can self-administer antibiotic—e.g. norfloxacin 400 mg bd for 3 days, or 800 mg (o) statim; use cotrimoxazole in children
- · Avoid Lomotil or Imodium

Severe diarrhoea (patient toxic and febrile)

- ? Admit to hospital
- Attend to hydration—use an oral hydrate solution (e.g. Gastrolyte or WHO formulation)
- Avoid Lomotil and Imodium
- · Antibiotic: norfloxacin or ciprofloxacin

Persistent diarrhoea > 2-3 wks

Consider giardiasis and amoebiasis.

Take 3 faecal specimens for analysis.

Also consider Campylobacter jejuni, Salmonella, Yersinia, Cryptosporidium, strongloides, schistosomiasis.

Preventive advice (countries at risk)

- Purify all potentially contaminated water by boiling for 10 mins. 2% tincture of iodine is useful.
- · Do not use ice or salads.
- · Drink hot drinks or reputable bottled soft drinks.

Typhoid fever

Incubation period 10–14 d.

Features: 'step ladder' fever, abdominal pain, headache (classic), 'pea soup' diarrhoea, relative bradycardia

Diagnosis: on suspicion \rightarrow blood culture

Treatment: ciprofloxacin 500 mg (o) bd for 7-10 d

Cholera

Incubation period few hours–5 days. Usually mild, uncomplicated episode diarrhoea. Fulminant lethal form with severe water and electrolyte depletion, intense thirst, oliguria.

DxT: fever + vomiting + abrupt onset 'rice water' diarrhoea \rightarrow cholera

Diagnosis: stool M & C (Vibrio cholera)

Treatment: hospitalisation for IV fluids and electrolytes, doxycycline

Amoebiasis

Consider it in sick traveller from endemic area with severe diarrhoea with blood and mucus.

Diagnosis: stool microscopy, faecal antigen

Treatment: metronidazole or tinidazole

Giardiasis

Often asymptomatic; symptoms include abdominal cramps, bloating, flatulence and bubbly, foul smelling diarrhoea.

Diagnosis: 3 specimens faeces-microscopy: ELISA/PCR

Treatment: metronidazole or tinidazole, scrupulous hygiene

Specific acquired tropical infections Dengue ('breakbone') fever and chikungunya

Similar viral mosquito-borne infections.

Febrile illness with severe aching of muscles (myalgia +++) and joints. Possible characteristic erythematous rash with 'islands of sparing'.

Diagnosis: clinical suspicion → specific antibodies

Treatment: is symptomatic with supportive follow-up. Push fluids & simple analgesics. Depression a worry.

Melioidosis

Caused by a Gram-negative bacillus. It may manifest as a focal infection or as septicaemia with abscesses in the lung, kidney, liver or spleen. It presents with fever, cough and myalgia.

Diagnosis: blood culture, swabs from focal lesions, haemagglutination test Treatment: cotrimoxazole + ceftazidime 2 g IV 6–8 hrly *or* meropenem

Malaria

- Incubation period: P. falciparum 7-14 d; others 12-40 d
- Most present within 2 mths of return from tropics
- Can present up to 2 or more yrs

Symptoms

- · High fever, chills, rigor, sweating, headache
- · Usually abrupt onset
- Can have atypical presentations (e.g. diarrhoea, abdominal pain, cough)

Other features

- · Beware of modified infection
- · Must treat within 4 d
- · Typical relapsing pattern often absent
- Thick smear allows detection of parasites
- Thin smear helps diagnose malaria type

If index of suspicion high, repeat the smear ('no evidence of malaria' = 3 negative daily thick films). Monocytosis is a helpful diagnostic clue. Cerebral malaria and blackwater fever are severe and dramatic. Special new tests (e.g. PCR, ICT cards) now available.

Treatment

Admit to hospital with infectious disease expertise

- · Supportive measures inc. IV fluids
- · P. vivax, P. ovale, P. malariae
 - chloroquine + primaquine: 14 d (check G-6-PD first)

P. falciparum

- uncomplicated: quinine (o) + doxycycline or Fansidar or
- mefloquine (alone) or
- atovaquone/proguanil (Malarone) or
- artemether/lumefantrine

complicated: quinine IV then quinine ± Fansidar (o)

Note: Check for hypoglycaemia. Beware if antimalarial use in previous 48 h.

Prevention: 1 447

Japanese B encephalitis and meningococcal meningitis

Consider these serious infections in a patient presenting with headache, fever and malaise before neurological symptoms such as delirium, convulsions and coma develop. Admit to hospital ASAP.

Schistosomiasis (bilharzia)

- First sign is local skin reaction ('swimmer's itch')
- Generalised allergic reaction (fever, malaise, urticaria) some days later
- Other symptoms (e.g. nausea, vomiting, cough)

Diagnosis: specific serology: also eggs in excreta.

Treatment: praziquantel.

Prevention: travellers should be warned against drinking from or swimming and wading in dams, watercourses or irrigation channels esp. in Egypt and Africa.

African trypanosomiasis (sleeping sickness)

• Fever, headache and a skin chancre or nodule

Two stages possible:

- · Haemolymphatic stage: lymphadenopathy, hepatosplenomegaly
- Meningoencephalitic stage: including hypersomnolence

Diagnosis: on blood smear or chancre aspirate (trypomastigotes)

Treatment: suramin IV

Prevention: avoid bites of the tsetse fly

Plague ('black death')

Caused by Yersinia pestis—transmitted by fleas Basically 2 forms

- I bubonic plague—painful suppurating lymph nodes (buboes)
- 2 pneumonic plague—flu-like symptoms, sepsis, haemorrhage

Diagnosis: serology and smear/culture buboes

Treatment: streptomycin and doxycycline

Rabies (a rhabdovirus infection)

At first: malaise, headache, painful or itchy bite, fever, agitation. Then either paralytic 'dumb rabies' or encephalitic 'furious rabies' including hydrophobia (fear of drinking water)

Diagnosis: viral testing

Treatment: rabies immunoglobin (within 48h)

Hansen's disease (leprosy)

Diagnosis is one or more of (WHO)

- skin lesions—anaesthetic, hypopigmented or reddish maculopapules or annular lesions
- thickened peripheral nerves → neuropathy
- demonstration of acid-fast bacilli in skin smear or on biopsy

It can be localised (tuberculoid) or generalised (lepromatous)

Diagnosis: biopsy, lepromin test, PCR, skin smear

Treatment: multiple drugs (see www.who.int/lep)

Leishmaniasis

- Cutaneous leishmaniasis—erythematous papules
- Visceral leishmaniasis (Kala azar):
 - fever, wasting, hepatosplenomegaly, lymphadenopathy
 - hyperpigmentation of skin (black fever)

Diagnosis: serology and tissue biopsy

Treatment: complex—seek advice

Cutaneous myiasis

Consider infestation of body tissues by larvae (maggots) of flies if traveller presents with 'itchy boils' (e.g. tumbu fly, botfly, New World screw worm). Treatment: vaseline over lump, pressure and tweezer extraction of maggot.

Helminth (worm) infections

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These are classified as nematodes (roundworms), cestodes (tapeworms) and trematodes (flukes). The roundworms which include pinworm (Enterobius vermicularis), whipworm (Trichuris trichiura), human roundworm (Ascaris lumbricoides), human threadworm (Strongyloides stercoralis), hookworm (Ankylostomiasis), filiariasis and larva migrans are the most prevalent worldwide.

Whipworm

About 1-2 cm long these worms can cause failure to thrive, anaemia, abdominal pain, diarrhoea and rectal prolapse with heavy infestation.

Diagnosis: microscopy of stool

Treatment: single large dose of mebendazole or aldendazole

Human threadworm (strongyloides)

These tiny parasites (2 mm or so) are common worldwide. Features if symptomatic are recurrent (low grade) abdominal pain, diarrhoea, \pm urticaria and respiratory symptoms. Blood eosinophilia. Can live and reproduce in the body for many years. Aggravated by steroid therapy e.g. septicaemia.

Diagnosis: larvae in faeces, duodenal biopsy, ELISA test

Treatment: ivermectin 200 mcg/kg (0) two doses 2 wks apart (not in children) or albendazole 200 mg bd, 3 d

Cutaneous larva migrans (creeping eruption)

A pruritic, erythematous serpiginous eruption on the skin esp. hands, legs and feet. The larvae (of dog or cat hookworms) keep just ahead of the lesion

Diagnosis: clinical appearance; eosinophilia

Treatment: usually self-limiting. Can use single dose ivermectin or albendazole

Filariasis

 Lymphatic filariasis—chronic lymphoedema may manifest as a hydrocele, elephantiasis of extremities, genitals e.g. scrotum and breasts

Diagnosis: blood film and serology

2 Onchoerciasis (river blindness)—skin disease and chronic eye disease (uveitis and optic atrophy)

Diagnosis: PCR

Treatment of filariasis: ivermectin

3 Loiasis (due to Loa Loa—a filaria) In Africa: painful swellings of angioedema (Calabars) mainly on limbs, eosinophilia, worms may migrate across eyes (subconjunctivae)

Diagnosis: microscopy of mid-day blood sample

Treatment: diethylcarbamazine 6 mg/kg (o) stat.

Hydatid disease

Parasites from sheep areas can migrate anywhere but usually form cysts on lungs. May be asymptomatic or skin cysts and abdominal discomfort.

Diagnosis: serology, ultrasound

Treatment: surgical cystectomy, albendazole

Dracunculus medimensis (Guinea worm)

Causes local symptoms such as pain and intense itching at skin ulcer or blister as the worm emerges into the skin.

Treatment: slow extraction of pre-emerging worms, metronidazole \pm corticosteroids

Hookworm

- · First sign—'creeping eruption' at entry point on feet
- 1-2 wks later—respiratory symptoms like pneumonia
- · Anaemia follows
- Iron deficiency (commonest cause in world)

Diagnosis: larvae or ova in stool

Treatment: single dose mebendazole or pryantel

Prevention: use footwear in endemic areas

Pinworm 🗅 479

Human roundworm 🗅 479

Travel sickness

Oral preparations:

- · dimenhydrinate (Andrumin, Dramamine, Travacalm) or
- promethazine theoclate (Avomine) or
- · hyoscine (Kwells)

Take 30–60 mins before the trip.

Repeat 4-6 hrly during trip (max. 4 doses in 24 h).

Dermal:

 hyoscine dermal disc (Scop); apply to dry hairless skin behind ear 5-6 h before travel, leave on for 3 d.

Tremor

Tremor is an important symptom to evaluate correctly. A common mistake is to misdiagnose the tremor of essential tremor for that of Parkinson disease.

Classification

Resting tremor—Parkinsonian

The tremor of Parkinson disease is present at rest. The hand tremor is most marked with the arms supported on the lap and during walking. The characteristic movement is 'pill-rolling'. See \square 380.

Action or postural tremor

This fine tremor is noted by examining the patient with the arms outstretched and the fingers apart. Causes include:

- essential tremor (also called familial tremor or benign essential tremor)
- · senile tremor

- physiological
- · anxiety/emotional
- · hyperthyroidism
- alcohol
- drugs (e.g. drug withdrawal—heroin, cocaine, alcohol, dexedrine, lithium)

Intention tremor (cerebellar disease)

This coarse oscillating tremor is absent at rest but exacerbated by action and increases as the target is approached. It is tested by 'finger-nose-finger' touching.

Flapping (metabolic tremor)

A flapping or 'wing-beating' tremor is observed when the arms are extended with hyperextension of the wrists. Typically caused by metabolic disorders such as uraemia, hepatic failure, Wilson's syndrome and respiratory failure.

Essential tremor

Called benign, familial, senile or juvenile tremor.

Triad of features

- · +ve family history
- tremor with little disability, inc. head movement (titubation)
- · normal gait

Management

- explanation and reassurance
- drugs usually not needed
- · discreet use of alcohol beneficial

If necessary: propranolol (first choice) 10–40 mg (o) bd or primidone

Tropical ear

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For severe painful otitis externa in tropics:

- prednisolone (orally) 15 mg statim, then 10 mg 8 hrly for 6 doses followed by
- · Merocel ear wick
- topical Kenacomb or Sofradex drops for 10 d

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Umbilical discharge

Usually infected (fungal or bacterial) dermatitis, often with offensive discharge.

Precautions: consider umbilical fistula, carcinoma, umbilical calculus.

Management:

- · swab for micro and culture
- · toilet—remove all debris and clean
- · keep dry and clean—daily dressings
- · consider Kenacomb ointment

Umbilical granuloma in infants

Apply a caustic pencil gently daily for about 5 d.

Undescended testes

A testis that is not in the scrotum may be ectopic, absent, retractile or truly undescended.

The problem of non-descent

- Testicular dysplasia
- · Susceptible to direct violence (if in inguinal region)
- Risk of malignant change (seminoma) is 5–10 times greater than normal

Optimal time for assessment

Between 3 and 6 mths (before development of cremasteric reflex and thus confusion with a retractile testis)

Review 2½-3 yrs—? acquired maldescent

Refer

- All undescended testes by 6 mths
- Acquired maldescent
- · Concerned parents
- · Doubtful position of testis

Optimal time for surgery

The optimal time for orchidopexy is 6–12 mths. Production of spermatozoa is adversely affected in undescended testes from 2 yrs onwards. Exploration for the uncommon impalpable testis is worthwhile.

Hormone injections

Injections of chorionic gonadotrophic hormones are generally not recommended. They are ineffective except for borderline retractile testes.

Unemployment

Leads to increased cardiovascular disease, death rate and psychiatric illness

Objective is to prevent resignation, hopelessness and deterioration of health. Encourage positive outlook with readiness to re-enter labour force.

Vulnerable groups

- School leavers, esp. non-achievers (beware of impulsive overdoses)
- · History of psychosomatic or physical disability
- · Children of the unemployed
- · Previous problematic marriages
- · Men with many dependants
- Those > 50 yrs with good job records

Role of GP

- · Diagnostic awareness
- · Foreshadow problems
- · Caring, supportive counselling (very powerful)
- · Liaison with social services

Urethritis

The important STIs that cause urethritis which may be asymptomatic (esp. Qs) are gonorrhoea and *Chlamydia trachomatis*.

Collection of specimens Check with your laboratory. The conventional method is as follows. The NAAT (PCR) *Chlamydia* urine test (95% specific) is the preferred test (in both sexes) on the first catch urine specimen (don't urinate for 4 hrs) then first 10 mL passed in an ordinary MCU jar. Otherwise don't urinate for at least 2 hrs (esp. ♀s). However a new approach is to collect a random sample by passing urine through a UriSWAB.

These tests are also used to diagnose gonorrhoea. However, PCR is less reliable in women for gonorrhoea than an endocervical specimen.

Taking swabs

• Standard swab for *Gonococcus* (into the urethral meatus): place into Stuart's transport medium

Take an endocervical swab in females.

For men who have sex with men the tests are first-pass urine, swabs of urethra, anus and throat.

Treatment of symptomatic patients should be based on results of Gram stain, culture and PCR/LCR for *Chlamydial* diagnosis.

Screening guidelines for higher risk

- all sexually active females < 25 yrs
- · those with a pattern of inconsistent or no condom usage
- men who have sex with men

Chlamydia non-specific urethritis

- azithromycin 1g (o) as single dose or
- doxycycline 100 mg (o) 12 hrly for 10 d.

A second course may be required if the symptoms persist or recur (about 1 in 5 cases).

- treat (same way) sexual partners (even if asymptomatic)
- · avoid sexual intercourse until resolution

Gonorrhoea

- ceftriaxone 250 mg IM (dissolved in 1–2 mL lignocaine) single dose plus either
- azithromycin Ig (o) single dose or doxycycline IOO mg (o) bd for IO d
 If pharyngeal or anorectal infection: ceftriaxone 250 mg IM as single dose.

Urinary tract infection

Consider the NSAID tiaprofenic acid as a cause of non-infective cystitis.

Basic management of urinary tract infection

- urine dipstick
- · microculture (clean catch): significant levels
 - culture counts >105 cfu/mL
 - WBC > 10 per μ L (10 × 10⁶/L)
- first line antibiotics—trimethoprim or cephalexin
- alkaliniser for severe dysuria
- · high fluid intake
- · check sensitivity—leave or changes ABs
- repeat MCU 1-2 weeks after AB course
- · consider further investigation

Treatment

- · Treat all patients with symptomatic urinary infection.
- Treat these asymptomatic patients with bacterial UTI: neonates, preschool children, pregnant women, all those with known or

presumed urinary tract abnormality and/or renal impairment, men < 60 yrs.

Optimal treatment includes:

- · high fluid intake
- complete bladder emptying, esp. at bedtime or after intercourse (women)
- · urinary alkalinisation for severe dysuria (e.g. sodium citrotartrate 4 g orally 6 hrly)

Acute uncomplicated cystitis

Antimicrobial regimen

Multiple dose therapy preferred.

Single dose therapy

- trimethoprim 600 mg orally or
- gentamicin 120 mg IM or
- nitrofurantoin 200 mg orally

Multiple dose therapy (based on non-pregnant women)

Use for 5 d in women (trimethoprim—3 d)

Use for 10 d in women with known UT abnormality

Use for 14 d in men with acute cystitis

- trimethoprim 300 mg (o) daily for 3d or } first choice • cephalexin 250 mg (o) 6 hrly for 5 d or
- amoxycillin/potassium clavulanate 500/125 mg (o) 12 hrly or
- nitrofurantoin 50 mg (o) 6 hrly or
- norfloxacin 400 mg (o) 12 hrly (if resistance to above agents proven)

Follow-up: MSU 1-2 wks later. Avoid using important quinolones—norfloxacin or ciprofloxacin—as first-line agents.

Acute cystitis in children > 12 mths Treatment should be continued for 5 d:

- trimethoprim 4 mg/kg (up to 150 mg) bd (suspension is 50 mg/5 mL)
- cephalexin 12.5 mg/kg (up to 500 mg) bd or
- amoxycillin clavulanate 12.5/3.1 mg/kg (up to 500/125 mg) (o) bd Norfloxacin is contraindicated in children.

Check MSU in 3 wks.

Urinary infections in pregnancy Acute cystitis is treated for 10 d with any of the following antimicrobials: cephalexin, amoxycillin/potassium clavulanate or nitrofurantoin (if a beta-lactam antibiotic is contraindicated). The dosages are the same as for other groups. Asymptomatic bacteruria should be treated with a week-long course.

Urinary infections in the elderly Treat uncomplicated symptomatic infections as for adults but not asymptomatic bacteruria.

Acute pyelonephritis

Mild cases: oral therapy (as for cystitis) but double dose except trimethoprim (same dose)

Severe:

- admit to hospital
- take urine for MCU and blood for culture
- amoxycillin 2 g IV 6 hrly plus
- gentamicin 4–6 mg/kg IV daily for 2–5 d then use oral therapy ASAP (total 14 d treatment)

Investigate all for an underlying LUT abnormality.

Treatment of recurrent or chronic UTI A 10-14 d course of:

- amoxycillin/potassium clavulanate (500/125 mg) (o) 12 hrly or
- trimethoprim 300 mg (o) once daily or
- norfloxacin 400 mg (o) 12 hrly (if proven resistance to above agents)

Prophylaxis for recurrent UTI In some female patients a single dose of a suitable agent after intercourse is adequate but, in more severe cases, courses may be taken for 6 months or on occasions longer:

- nitrofurantoin (macrocrystals) 50-100 mg (o) nocte or
- trimethoprim 150 mg (o) nocte or
- · cephalexin 250 mg (o) nocte

Children use the same antibiotics according to age.

Note: Cranberry products (juice or tablets) may reduce incidence of symptomatic UTI in women but the evidence is not strong.

Indications for investigation of UTI

- · all infants and children
- all males
- · all women with:
 - acute pyelonephritis
 - recurrent infections > 2 per year
 - confirmed sterile pyuria
 - other features of kidney disease (e.g. hypertension)

Investigations for recurrent UTI

Basic investigations include:

- MSU-microscopy and culture (post-treatment)
- · renal function tests: plasma urea and creatinine, GFR
- intravenous urogram (IVU), and/or US

Special considerations:

- · in children: micturating cystogram
- in adult males: consider prostatic infection studies if IVU normal
- · in severe pyelonephritis: ultrasound or IVU (urgent) to exclude obstruction
- · in pregnant women: US to exclude obstruction

Urticaria (hives)

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Can be classified as:

- papular (hives) (e.g. insect bites)
- giant-cell
 - widespread weals
 - superficial—dermis = urticaria
 - deep—subcutaneous = angioedema

Check causes

- Food: nuts, esp. peanuts, chocolate, cheese, fish, eggs, etc.
- Drugs (e.g. aspirin, antibiotics)
- Infections (e.g. bacteria, parasites, yeasts)
- · Plants: nettles, Grevillea, Rhus
- · Physical: exercise and heat, cold

Unknown aetiology in most cases (up to 80%).

Treatment

- · Avoid any identifiable causes
- Antihistamines, e.g. cyproheptadine 16–32 mg (o) daily, non-sedating (e.g. fexofenadine 60 mg (o) bd)
- · Lukewarm baths with Pinetarsol or similar soothing bath oil
- Topical 0.5% hydrocortisone—apply every 4 h for itching or soothing preparation (e.g. crotamiton 10% or phenol 1% in oily calamine)

If severe: prednisolone 50 mg once daily for 10 d.

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Vaginal discharge

Table 94 Vaginal discharge: diagnostic strategy model (modified)

Q. Probability diagnosis

- **A.** Normal physiological discharge Vaginitis
 - · bacterial vaginosis 40-50%
 - candidiasis 20-30%
 - trichomonas 10–20%
- Q. Serious disorders not to be missed
- A. Neoplasia
 - carcinoma
 - fistulas
 - STIs/PID (i.e. cervicitis)
 - gonorrhoea
 - · Chlamydia
 - Sexual abuse, esp. children
 Tampon toxic shock syndrome
 (staphylococcal infection)

Q. Pitfalls (often missed)

- **A.** Chemical vaginitis (e.g. perfumes)
 - Retained foreign objects (e.g. tampons, IUCD)
 - Endometriosis (brownish discharge)
 - Ectopic pregnancy ('prune juice' discharge)
 - Poor toilet hygiene
 - Genital herpes (possible)
 - Papilloma virus infection
 - Atrophic vaginitis Herpes simplex

Investigations

• pH test with paper of range 4–6

Make two slides:

- · one smear for air-drying and Gram stain
- · one wet film preparation, under a cover slip for direct inspection for the
 - pseudohyphae of Candida
 - 'clue cells' of Gardnerella
 - motile Trichomonas

A full STI work-up (if relevant):

- swabs from the cervix for Chlamydia, N. gonorrhoeae
 - swab mucus from cervix first
 - swab endocervix
 - place in transport media
- · first pass urine for PCR tests
- Pap smear
- · viral culture (herpes simplex)

Table 95 Characteristics of discharge

Infective organism	Colour	Consistency	Odour
Candida albicans	White	Thick (cream cheese)	_
Trichomonas	Yellow/green	Bubbly, profuse (mucopurulent)	Malodorous, fishy
Bacterial vaginosis	Grey	Watery, profuse, bubbly	Malodorous, fishy
Physiological	Milky white or clear (oxidises to yellow or brown)	Thin or mucoid	_
Atrophic vaginitis	Yellow (may be bloody)	Thin—slight to moderate	_
Cervicitis	Yellow green (from cervix)	Thick— mucopurulent	Usually malodorous

Vaginal thrush (candidal vaginitis)

- Bathe genital area bd or tds with sodium bicarbonate (esp. before using treatment).
- · Dry area thoroughly.
- · Wear loose-fitting cotton underwear.
- Avoid wearing tight clothing or using tampons.
- Avoid vaginal douches, powders or deodorants.

Treatment Can use amphotericin, clotrimazole, econazole, isoconazole, miconazole, nystatin, ketoconazole or fluconazole. Examples:

- clotrimazole 500 mg vaginal tab statim, and/or clotrimazole 2% cream applied to vagina and vulva (for symptomatic relief) or (esp. if recurrent)
- nystatin pessaries, once daily for 7 d and/or nystatin vaginal cream, 4 g once daily for 7 d or (if recalcitrant)
- fluconazole 150 mg (o) as a single dose or ketoconazole 200 mg (o) bd for 5d

Male sexual partner not usu. treated (on current evidence). If the male is symptomatic, treat with clotrimazole 1% + hydrocortisone 1% topically, bd, until 2 wks after symptoms resolve.

Bacterial vaginosis

Due to overgrowth of *Gardnerella vaginalis* and other anaerobes such as *Mobiluncus* species.

Treatment

- Metronidazole 400 mg (o) bd for 5 d or (for resistant infections and pregnancy)
- Clindamycin 300 mg (o) bd for 7 d or clindamycin 2% cream nocte for 7 nights
- Restore pH with douches (e.g. topical Acigel or vinegar, 3–4 tbsp/L water)
- · Male sexual partner not treated

Trichomonas vaginalis

Treatment

- Oral metronidazole 2g as a single dose (preferable) or 400 mg bd for 7d (if relapse) or tinidazole 2g as a single dose
- Use clotrimazole 2% vaginal cream daily for 3 nights during pregnancy
- · Attention to hygiene
- The sexual partner must be treated simultaneously
- · The male partner should wear a condom during intercourse
- For resistant infections a 3–7 d course of either metronidazole or tinidazole may be nec.

Atrophic vaginitis

Treatment

- · Oral hormone replacement therapy
- Local oestrogen cream or tab (e.g. Vagifem). The tab is preferred as it is less messy

Venous ulcers

The area typically affected by varicose eczema and ulceration is the 'gaiter' area of the leg. The secret of treating ulcers due to chronic venous insufficiency is the proper treatment of the physical factors, esp. compression. Removal of fluid from a swollen leg is also mandatory.

Treatment method

- I Clean the ulcer with N saline. If slough, apply Intra Site Gel.
- 2 Apply paraffin gauze, then pack the defect with sponge rubber or other suitable dressing (e.g. Melolin).
- 3 Apply a compression bandage below the knee (e.g. graduated compression stockings, Eloflex bandage). Alternatively, an occlusive paste bandage (e.g. Viscopaste or Icthaband) can be applied for 7 d

from the base of the toe to just below the knee, plus compression bandage. Consider Tubigrip stockinette cover.

- 4 Prescribe diuretics if oedema is present.
- 5 Insist on as much elevation of the leg as is possible.

Note: Dressings should be changed when they become loose or fall off, or when discharge seeps through. Patients may get ulcers wet and have baths.

Table 96 Wound management principles

The good	The bad
Hydration Washing with water or saline	Dryness Excess antiseptics
Insulation protection	Exposure to air Scabs, crust, slough
Dressings	
Compression (venous) Hydrogel	Dry dressings Gauze packing
Minimal changes	Oedema/lymphoedema

Wound dressing4

There are five main types of modern wound dressings: films, hydrogels, hydrocolloids, alginates and foams—all expensive. Films, hydrogels and hydrocolloids increase the wound moisture whereas alginates and foams absorb exudate. The more traditional dressings such as tulle grass, non-adherent pad dressings and saline soaks can be useful. Crepe bandages can be used to hold non-adherent dressings in place.

General rules:

- allow 2-3 cm of dressing greater than the wound
- place 1/3 above and 2/3 below the wound
- remove when 'strike-through' occurs
- remove with care in older patients
- remove under the shower if necessary
- when in doubt, DO NOT HARM: use foam and gel combinations

Table 97 Principles of management of chronic ulcers

Ulcer type	Major management principles
Venous	Control venous insufficiency: compression bandage improve calf muscle pump action (ambulation, exercises) vertical leg drainage
Arterial	Vascular assessment for surgical intervention
Mixed venous/arterial	Vascular assessment for surgical intervention
Pressure	Eliminate or reduce pressure

Visual loss

Apart from migraine, virtually all cases of sudden loss of vision require urgent treatment.

Important causes

Amblyopia

In children, a lazy eye with reduced vision. Refer strabismus early.

Retinoblastoma

In children: white pupil and 'cat's eye' reflex.

Cataracts

- Reduced visual acuity (sometimes improved with pinhole)
- · Diminished red reflex on ophthalmoscopy
- · A change in the appearance of the lens

Advise extraction when the patient cannot cope.

Glaucoma

Acute—rapid onset over a few days

Chronic—gradual loss of outer fields of vision

Tonometry: 22 mmHg is upper limit of normal

- · Medication (for life) usually selected from:
 - timolol or betaxolol (beware of asthma) drops bd
 - pilocarpine drops qid
 - dipivefrin drops bd
 - acetazolamide (oral diuretics)
- · Surgery or laser therapy for failed medication

Retinitis pigmentosa

- · Begins as night blindness in children
- · Ophthalmoscopic examination—irregular patches of dark pigment

Sudden loss of vision

Amaurosis fugax

- Usually due to embolus from carotid artery
- · Requires investigation, inc. carotid duplex Doppler US

Retinal detachment

- · Sudden onset of floaters or flashes or black spots
- Vision in one eye becoming worse
- · Immediate referral for sealing of retinal tears

Vitreous haemorrhage

- · Sudden onset of floaters or 'blobs' in vision
- · Urgent referral to exclude retinal detachment
- · Surgical vitrectomy for persistent haemorrhage

Central retinal artery occlusion

- · Sudden loss of vision like a 'curtain descending'
- Vision not improved with 1 mm pinhole
- · Classic 'red cherry spot' at macula

Management If seen early, use this procedure within 30 mins:

- massage globe digitally through closed eyelids (use rhythmic direct digital pressure)
- rebreathe carbon dioxide (paper bag) or inhale special carbon dioxide mixture (carbogen)
- intravenous acetazolamide (Diamox) 500 mg Refer urgently.

Central retinal vein thrombosis

Ophthalmoscopy shows swollen disc and multiple retinal haemorrhages. No immediate treatment is effective but refer urgently.

Macular degeneration

There are two types: exudative (acute) and pigmentary (slow onset). Acute visual distortion then sudden fading of central vision.

Usually white exudates, haemorrhage in retina.

Urgent referral for fluorescein angiography and possible laser photocoagulation.

Temporal arteritis

- · Sudden loss of central vision in one eye (central scotoma)
- · Can rapidly become bilateral
- · Associated temporal headache

Management

- · Other eye must be tested
- Immediate corticosteroids (60 mg prednisolone daily for at least i wk—be careful of avascular necrosis of neck of femur)
- · Biopsy temporal artery

Posterior vitreous detachment

- · Sudden onset of floaters
- · Visual acuity usually normal
- Flashing lights indicate traction on the retina Refer urgently.

Optic (retrobulbar) neuritis

- Usually a woman 20-40 yrs with multiple sclerosis
- · Loss of vision in one eye over a few days
- · Retro-ocular discomfort with eye movements
- · Variable visual acuity
- Usually a central field loss (central scotoma)
- · Optic disc changes

Refer immediately. Steroids hasten recovery.

Vitiligo

Difficult to treat—consider camouflage make-up (e.g. self-tanning preparations). Treatment includes PUVA and oral psoralens (e.g. methoxsalen, trioxysalen). A trial of prolonged topical corticosteroids is claimed to be effective (e.g. hydrocortisone 1% for 6 mths followed by methylprednisolone aceponate 0.1% for 6 mths).

Vomiting

Table 98 Vomiting: diagnostic strategy model

Q. Probability diagnosis A. All ages: acute gastroenteritis motion sickness drugs various infections Neonates: feeding problems Children: viral infections/fever otitis media urinary tract infection Adults: gastritis alcohol intoxication pregnancy migraine Q. Serious disorders not to be missed A. Bowel obstruction (e.g. pesophageal	Severe infection (e.g. meningitis, septicaemia) Diabetic ketoacidosis Malignancy Intracranial disorders (e.g. CVA) Acute myocardial infarction (e.g. painless) Q. Pitfalls (mainly adults) A. Pregnancy (early) Labyrinthine disorders Meniere's syndrome etc. Poisoning (e.g. food, chemicals) Substance abuse Hypercalcaemia
A. Bowel obstruction (e.g. oesophageal atresia—neonates)	Hypercalcaemia Drugs—various
pyloric obstruction < 3 mths intussusception	D. 1450 VII. 1043

Vomiting in infancy

Important warning signs in neonates:

- · excessive drooling of frothy secretions from mouth
- · bile-stained vomitus—always abnormal
- delayed passage of meconium (>24h)
- · inguinal hernias

First question: Is the vomiting bile stained?

- green vomiting = urgent surgical referral? intestinal malrotation
- non-bile stained vomitus? pyloric stenosis, gastro-oesophageal reflux, feeding problems, etc. Both pyloric stenosis and GOR cause projectile vomiting.

Oesophageal atresia

- Vomiting occurs with the first feeding
- Excessive drooling of frothy secretions
- Pass 10 g French catheter through mouth to aid diagnosis

Congenital hypertrophic pyloric stenosis

- Usually sudden onset 3rd-6thwk
 Projectile vomitus
 Gastric peristalsis during test feeding
- M:F ratio = 5:1
- Metabolic alkalosis with Na↓ Cl↓

Symptomatic relief of vomiting

The first-line management is to ensure that any fluid and electrolyte imbalance is corrected and that any underlying cause is identified and treated. Various anti-emetics can give symptomatic relief.

Note: Avoid the use of the dopamine antagonist drugs (e.g. metoclopramide and prochlorperazine) in children because of risk of extrapyramidal side effects

Drug-induced nausea and vomiting

metoclopramide 10 mg (o) or IM 8 hourly prn

For cytotoxic drugs (e.g. cisplatin) and radiotherapy:

metoclopramide 10 mg (o) or IM 1 to 2 hours prior to the rapy then 8 hourly (if mild)

For severe cases:

ondansetron 8 mg (o) or IV prior to the rapy then two doses 6 hourly ${\it plus}$

dexamethasone $8\,\mathrm{mg}$ IV 30 minutes prior to therapy, then 2 doses 6 hourly

Table 99	Anti-emetic	medication	in	common	use
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Anti-emetic	Receptor antagonist	Route
Promethazine	Н,	O, IM, IV
Metoclopramide	D ₂ + 5-HT ₃	O, IV, IM
Prochlorperazine	D ₂ (central)	O, IM, PR
Domperidone	D ₂ (peripheral)	0
Haloperidol	D ₂ (central)	O, IM
Ondansetron	5-HT ₃	O, IV

Important side effects: dystonia, dyskinesia, drowsiness, anti-cholinergic, hyperprolactinaemia

 $5-HT_3 = 5$ hydroxytryptamine type 3, $D_2 = dopamine D_2$

Vulvar disorders

Clinical manifestations of vulvar disorders include itching, pain or discomfort, irritation, white mucosal patches, lichenification, erosions and intertrigo. The dermatoses, notably dermatitis, psoriasis, lichen planus and lichen sclerosus, are the main cause of vulvar problems. Pruritus vulvae is presented on \square 399.

Table 100 Vulvar discomfort/irritation: diagnostic strategy model

Q. Probability diagnosis Q. Pitfalls (often missed) A. Atopic dermatitis A. Lichen sclerosus and lichen Chronic vulvovaginal candidiasis planus Irritant contact dermatitis (e.g. Urinary incontinence → douches, bubble baths) ammonical vulvitis Allergic contact dermatitis (e.g. Faecal soiling perfumes, topical antimicrobiales) Tinea cruris Fissuring from the above Trichomonal vaginitis dermatoses Atrophic vaginitis Trauma—'dry' coitus Aphthous ulcers Q. Serious disorders not to be missed Dysaesthetic vulvodynia A. Neoplasia Q. Seven masquerades checklist · squamous cell carcinoma **A.** Depression Diabetes melanoma lymphomas etc → pruritus Drugs Infection · streptococcal vulvovaginitis Q. Is this patient trying to tell me · herpes simplex virus something? Vulval vestibular syndrome A. Common: psychosexual

Lichen sclerosus

This chronic inflammatory dermatosis of unknown aetiology presents as well-defined, white, finely wrinkled plaques that almost exclusively affect the anogenital skin but spare the vagina. The differential diagnosis is atrophic vaginitis.

problems

Features

- Genital pruritus + soreness + white wrinkled plaques
- Bimodal peak: prepubertal girls, perimenopause
- Purpuric and ulcerated areas
- Lifetime risk SCC 2–6%.

Management

- · Confirm diagnosis by biopsy
- Use potent topical steroids for 6 mths, then hydrocortisone 1% long term

Chronic vulvovaginal candidiasis

This is different from acute candidiasis and may represent a localised hypersensitivity to *C. albicans*. Aim for symptom remission with continuous antifungal treatment up to 6 mths. Relieve itching with hydrocortisone 1%.

Streptococcal vulvovaginitis

Usually presents as an acute, beefy red, sore vulva or vagina or a low-grade vulvitis. Take swabs from the vulva or vagina for diagnosis. Treat with oral phenoxymethylpenicillin for 10 d or other antibiotic according to sensitivity. Topical mupirocin may help prevent recurrences.

Vulvodynia

This describes the symptom of pain (burning, rawness or stinging) and discomfort where no obvious cause can be found. Conditions include vestibular hypersensitivity (vulvar vestibular syndrome) and dysaesthetic vulvodynia (neuropathic pain in middle-aged to elderly women).

Vestibular hypersensitivity

Features

- · Severe pain with vestibular touch, inc. vaginal entry
- · Young female usually in 20s and 30s
- · Nulliparous
- · Dyspareunia
- · Sexual dysfunction

Diagnosis Inappropriate tenderness to light touch with a cotton bud.

Management Patient education, counselling and support with bland emollients or 2% lignocaine gel prior to intercourse. May require intralesional therapy or anti-neuropathic pain agents or vestibulectomy (as last resort).

Dysaesthetic vulvodynia

The typical patient with this neuropathic pain problem is a middle-aged to elderly woman who presents with a constant burning pain of the labia. Examination is usually normal. Causes include pudendal neuralgia, post herpes simplex infection, referred spinal pain or idiopathic. Treatment options include antidepressants and gabapentin.

| W |

Warfarin oral anticoagulation

Warfarin actions

- · Antagonises vitamin K
- · Achieves full anticoagulation effect after 3-4 d
- Prothrombin time (INR ratio) of 2 times normal control indicates therapeutic effect
- Duration of effect is 2-3 d
- Antidote is vitamin K

Initiation of warfarin treatment An estimate of the patient's final steady dose is made. The patient is commenced on this dose and the INR monitored daily and the dose altered accordingly.

- · Measure INR first to establish baseline.
- Generally warfarin is commenced on same day or day after heparin is commenced.
- Heparin can be ceased when INR > 2 for two consecutive days.
- Typical loading dose is 5-Io mg (o) /d for 2 d (avoid dose > 30 mg over 3 d without INR).
- Adjust dosage according to the INR table (Table 101 overleaf) from 3rd day.
- Establish the INR in the therapeutic range, usually 2-3.
- Maintenance dose usually reached by d5.
- The INR reflects the warfarin dose given 48 h earlier.
- An unacceptable INR is > 5.0.

INR measurement schedule



Note:

- Warfarin should be continued for 3–6 mths and longer if major risk factors present.
- Watch for potential drug interactions.

Recommended INR target values

- prevention of DVT 2.0-3.0
- · treatment DVT or PE 2.0-3.0
- preventing systemic embolism 2.0–3.0
- mechanical prosthetic heart valve 2.5–3.5
- prevent recurrence MI 2.0-3.0

Table 101 Warfarin dosage adjustment*

Day	INR	Dose
1	_	5–10 mg**
2	<1.8	5 mg**
	1.8–2.0	1 mg
	>2.0	Hold
3	<2	5 mg
	2.0-2.5	4 mg
	2.6–2.9	3 mg
	3.0-3.5	1 mg
	3-5	Hold
4, and until stabilised	<1.4	10 mg
	1.4-1.5	7 mg
	1.6–1.7	6 mg
	1.8–1.9	5 mg
	2.0-2.3	4 mg
	2.4-3.0	3 mg
	3.1-3.2	2 mg
	3.3-3.5	1 mg
	>3.5	Hold

^{*} This table should be used only if the pre-treatment INR is normal.

Warts

Types of warts These include common warts, plane warts, filiform warts (fine elongated growths, usually on the face and neck), digitate warts (finger-like projections, usually on scalp), genital and plantar.

Treatment options for warts

Topical applications

- salicylic acid (e.g. 5–20% in flexible collodion, apply daily or bd)
- salicylic acid 16% + lactic acid 16% in collodion paint
- formaldehyde 2–4% alone or in combination

^{** 5} mg of warfarin should be given to patients who are more likely to be sensitive to warfarin. This includes the elderly, the very ill, the malnourished and patients with abnormal liver function or significant chronic renal failure.

- cantharadin 0.5–1% in equal parts collodion (available in USA), applied with care and occluded for 12 h
- podophyllotoxin o.5% or imiquimod for anogenital warts—good on mucosal surfaces but does not penetrate normal keratin
- cytotoxic agents (e.g. 5-fluorouracil)—very good for resistant warts such as plane warts and periungal warts

Cryotherapy

Carbon dioxide (–56.5°C) or liquid nitrogen (–195.8°C) destroys the host cell and stimulates an immune reaction.

Note: Excessive keratin must be pared before freezing. Results often disappointing.

Curettage

Some plantar warts can be removed under LA with a sharp spoon curette. The problem is a tendency to scar so avoid over a pressure area such as the sole of the foot.

Electrodissection

A high-frequency spark under LA is useful for small, filiform or digitate warts. A combination of curettage and electrodissection is suitable for large and persistent warts.

Vitamin A and the retinoids

- Topical retinoic acid (e.g. tretinoin o.1% cream, Retin-A) is effective on plane warts
- Systemic oral retinoid, acitretin (Neotigason) for recalcitrant warts

Specific wart treatment The method chosen depends on the type of wart, its site and the patient's age.

Plantar warts: see □ 250

Genital warts: podophyllotoxin 0.5% paint (see □ 260)

Filiform and digitate warts: liquid nitrogen or electrodissection

Plane warts: liquid nitrogen; salicylic acid 20% co (e.g. Wartkil); consider 5-fluorouracil cream or Retin-A

Common warts: a recommended method:

- I Soak the wart/s in warm soapy water.
- 2 Rub back the wart surface with a pumice stone.
- 3 Apply the paint (only to the wart; protect the surrounding skin with Vaseline). The paint: formalin 5%, salicylic acid 12%, acetone 25%, collodion to 100%.

Do this daily or every 2nd day. Carefully remove dead skin between applications or

- (adult) 16% salicylic acid, 16% lactic acid in collodion paint, apply once daily
- (children) 8% salicylic acid, 8% lactic acid in collodion

Periungal warts (fingernails): consider 5-fluorouracil or liquid nitrogen. Always use a paint rather than ointment or paste on fingers.

Weight loss

Weight loss is an important symptom because it usually implies a serious underlying disorder, either organic or functional.

Table 102 Weight loss: diagnostic strategy model (other than deliberate dieting or malnutrition)

Q. Probability diagnosis A. Stress and anxiety Non-coping elderly Q. Serious disorders not to be missed A. Congestive cardiac failure Malignant disease (e.g. stomach) Chronic infection (e.g. tuberculosis, hidden abscess) Q. Pitfalls (often missed) A. Drug dependence, esp. alcohol Malabsorption states Coeliac disease ? intestinal parasites Other GIT problems Chronic renal failure	Q. Seven masquerades checklist A. Depression Diabetes Drugs Anaemia Thyroid disorder Very byperthyroid Spinal dysfunction UTI Q. Is this patient trying to tell me something? A. A possibility. Consider stress, anxiety and depression. Anorexia nervosa and bulimia are special considerations.

Failure to thrive

Втт6

Eating disorders in the adolescent

Anorexia nervosa

Characterised by the obsessive pursuit of thinness through dieting with extreme weight loss and disturbance of body image. It has the highest mortality and suicide rate of any psychiatric disorder.

Typical features

- Adolescent and young adult females
- Up to 1% incidence among 16-yr-old schoolgirls
- Bimodal age of onset: 13-14 and 17-18 yrs
- Unknown cause
- · Amenorrhoea
- ↑ lanugo body hair

W

Bulimia

Bulimia is episodic secretive binge eating followed by self-induced vomiting, fasting or the use of laxatives or diuretics. There are 2 types: purging and non-purging (fasting + excessive exercise)

Typical clinical features

- · Young females
- · Begins at later age, usually 17-25 yrs
- · Associated psychoneurotic disorders
- · Fluctuations in body weight
- · Periods irregular—amenorrhoea rare
- Physical complications of frequent vomiting (e.g. dental decay, effects of hypokalaemia)

Management of eating disorders

There are often problematic family interrelationships which require exploration. Important goals are:

- · establish a good and caring relationship with the patient
- · resolve underlying psychological difficulties
- restore weight to a level between ideal and the patient's concept of optimal weight
- provide a balanced diet of at least 3000 calories (12 600 kilojules) per day (anorexia nervosa)

Structured behavioural therapy, intensive psychotherapy and family therapy may be tried but supportive care by physicians and allied health staff appears to be the most important feature of therapy. Antidepressants may be helpful for selective patients, e.g. fluoxetine for bulimia.

Whiplash

³⁵⁴

Whole-person approach to management

The patient-centred consultation not only takes into account the diagnosed disease and its management but adds another dimension—the psychosocial hallmarks of the patient (Table 103 overleaf).

Whole-person diagnosis is based on two components:

- I the disease-centred diagnosis
- 2 the patient-centred diagnosis

The management of the whole person, or the holistic approach, is fundamental to good general practice. The general practitioner has an obligation

to his or her patients to use natural healing methods wherever possible and be very discerning and conservative with investigatory medicine and drug prescribing.

Patients appreciate natural remedies and taking responsibility for their own management wherever possible and appropriate. Examples include relative rest, exercise, swimming, stress management, meditation, spiritual awareness, antioxidant therapy (e.g. vitamin C, vitamin E, selenium), weight control, optimal healthy nutrition, avoidance of toxins (e.g. illicit drugs, nicotine, caffeine and alcohol) and sexual fulfilment.

Underlying a successful outcome is motivation and the healing factor of the physician in being the motivator, teacher and facilitator should never be underestimated.

Table 103 Whole-person diagnosis and management

Disease-centred diagnosis aetiology of disease	Patient-centred diagnosis significance of illness to patient effect on family and relationships effect on work and income psychological effects • stress and anxiety • abnormal illness/behaviour • sleep • depression effect on sexuality effect on attitudes and spirituality
Disease-centred management rest drugs intervention surgery other invasive techniques	Patient-centred management psychological support appropriate reassurance patient education empowering self-responsibility anticipatory guidance/special hazards prevention health promotion lifestyle recommendations/modifications

W

Worms (helminths) see tropical infections

<u> 452</u>

Pinworms (also called threadworms)

- · The most ubiquitous parasitic worm
- · Causes pruritus ani
- · Inspect anus in child about 1 h after sleeping
- Collect eggs with adhesive tape on perianal skin

Treatment

- · Scrupulous hygiene
- Wash nightwear, underwear and bedlinen in very hot water daily for several days
- · Veterinarian check of household pets
- Use any one of pyrantel, albendazole or mebendazole as single dose (e.g. pyrantel (o) 10 mg/kg up to 750 mg). Repeat in 2–3 wks: patient and household contacts.

Human roundworm

- Basically light infections that rarely cause problems, usually observed in stool
- · Diagnosis is by finding eggs in the faeces
- · Treat with pyrantel as single dose

Human threadworm (Strongyloides) 1 453

Whipworm

<u>1</u>452

Hookworm

¹ 454

Wounds: removal of non-absorbable sutures

Table 104 Time after insertion for removal of sutures

Area	Days later
Scalp	6
Face	3 (or alternate at 2, rest 3-4)
Eyelid	3-4
Ear	5
Neck	4 (or alternate at 3, rest 4)
Chest	8
Arm (including hand and fingers)	8–10
Abdomen	8–10 (tension 12–14)
Back	12–14
Inguinal and scrotal	7
Perineum	2
Legs	10
Knees and calf	12
Foot (including toes)	10-12

Wrinkles

□ 388

Writer's cramp

- Education and reassurance
- · Avoid holding pen too tight
- Clonazepam 0.5 mg bd (if persisting)

| Z |

Zoonoses

Zoonoses are those diseases and infections that are naturally transmitted between vertebrate animals and humans (Table 105 overleaf). There is a long list of diseases, which vary from country to country, and includes plague, rabies, scrub typhus, Lyme disease and tularaemia.

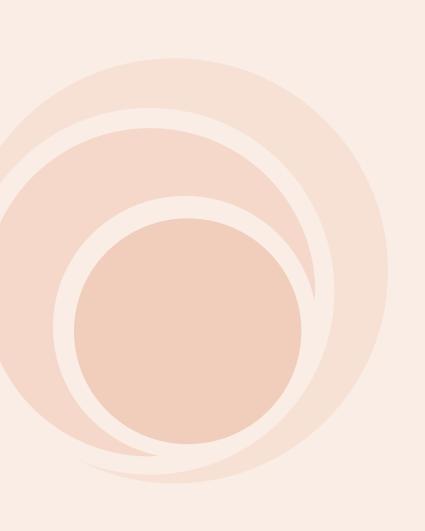
Z

Table 105 Major zoonoses in Australia

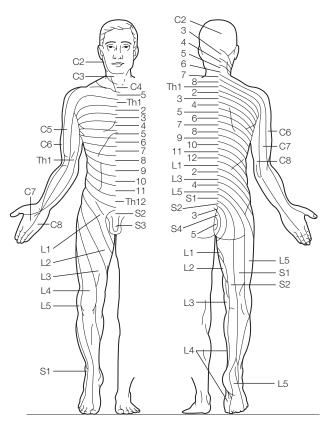
Zoonosis	Organism/s	Animal host	Mode of transmission
Q fever	Coxiella burnetti	Various wild and domestic animals	Inhaled dust Animal contact Unpasteurised milk
Leptospirosis	Leptospira pomona	Various domestic animals	Infected urine contaminating cuts or sores
Brucellosis	Brucella abortus	Cattle	Contamination of cuts or sores by animal tissues Unpasteurised milk
Lyme disease	Borrelia burgdorferi	Marsupials (probable)	Tick bites
Psittacosis	Chlamydia psittaci	Birds: parrots, pigeons, ducks, etc.	Inhaled dust
Bovine tuberculosis	Mycobacterium bovis	Cattle	Unpasteurised milk
Listerosis	Listeria monocytogenes	Various wild and domestic animals	Unpasteurised milk and cheese Contaminated vegetables Person to person
Plague	Yersinia pestis	Wild rodents	Fleas

^{*}CFT = complement fixation test.

	_
Diagnosis	Treatment
Serology CFT*	Doxycycline
Serology ± culture	Doxycycline or benzylpenicillin IV or tetracycline
Agglutination test Blood culture	Tetracycline + rifampicin or gentamicin
Serology	Tetracycline
Serology	Tetracycline or erythromycin
Culture	As for pulmonary TB
Serology	Amoxycillin
Smears, culture	Tetracycline + streptomycin
	Serology ± culture Agglutination test Blood culture Serology Culture Serology



Appendixes



Appendix 1 Dermatome chart

Mini-mental state examination	
	Score
ORIENTATION (max score 10)	
What is the year, month, day, date and season?	/5
Where are we now? Street no, road, suburb, city, state.	/5
REGISTRATION (max score 3)	
Ask patient to remember 3 items that you name. Name 3 objects (e.g. orange, camel, table). Repeat 3 times and ask to recall then after each time. Only score on first attempt (one mark each).	/3
ATTENTION AND CALCULATION (max score 5)	
Ask pt. to count backwards by several 7s from 100. (Stop after 5 times) OR spell 'WORLD' backwards.	/5
RECALL (max score 3)	
Ask pt. to recall the 3 objects above. 1pt/word recalled.	/3
LANGUAGE (max score 3)	
Show two objects (point to watch then pen). What's this?	/2
Ask to repeat 'NO IFS, ANDS or BUTS'	/1
THREE STAGE COMMAND (max score 3)	
Give pt. a blank sheet of paper and say 'take this paper in your right hand, fold it in half, and put it on the floor'.	/3
READING (max score 1)	
On a blank piece of paper write 'CLOSE YOUR EYES'. Ask pt. to read it and do what it says. Score 1 if obeys.	/1
WRITING (max score 1)	
Ask pt. to write a complete sentence. Score 1 point if it has a noun and a verb.	/1
COPYING (max score = 1)	
Draw intersecting pentagons and ask pt. to copy the drawing. 1 point if all 10 angles present and the two figures intersect.	/1
'Copy this design'	/30
GUIDE: 18–24 (probable mild dementia); 10–17 (probable moderate impairment); <10 (severe impairment).	

Appendix 2 Mini mental state examination



AT 50"

Appendix 3 Snellen visual acuity chart (read from distance 50 inches (140cm))